A STUDY ON

"SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN"

A Dissertation Submitted In

Partial Fulfilment of the Requirements

For The Degree of Doctor of Medicine (M.D)

BRANCH VII - PAEDIATRIC MEDICINE

GOVT. KILPAUK MEDICAL COLLEGE

THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY

CHENNAI, TAMILNADU

APRIL 2016

BONAFIDE CERTIFICATE

This is to certify that dissertation named **"SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN"** is a bonafide original research work carried out by **Dr. FEIZAL.A.N**, post graduate student, Department of Paediatrics, Govt. Kilpauk Medical College, Chennai - 10 under our direct supervision and guidance in partial fulfilment of the requirements for the award of the degree of Doctor of Medicine (M.D Paediatrics) Branch VII Paediatric Medicine during the academic year 2013-2016.

Prof. Dr. K. SUGUNA, M.D., D.C.H.,
Professor,
Department of Paediatrics,
Govt. Royapettah Hospital/
Govt. Kilpauk Medical College & Hospital,
Chennai-10

Prof. Dr. K. JAYACHANDRAN, M.D., D.C.H;
Professor and Head of the Department
Department of Paediatrics,
Govt. Kilpauk Medical College & Hospital,
Chennai -10

Prof. Dr. R. NARAYANABABU, M.D., D.C.H.,
Dean,
Govt. Kilpauk Medical College & Hospital,
Chennai – 10.

DECLARATION

I **Dr. FEIZAL A N,** hereby solemnly declare that this dissertation entitled **"SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN"** has been conducted by me at Government Kilpauk Medical College and Hospital, Chennai, under the guidance and supervision of **PROF. DR. K. SUGUNA M.D.**, **D.C.H**., Professor, Department of Paediatrics, Govt. Royapettah Hospital/Govt. Kilpauk Medical College & Hospital, Chennai.

This dissertation is submitted to **The Tamil Nadu Dr. M.G.R. Medical University, Chennai** in partial fulfillment of the University rules and regulations for the award of the degree of **M.D. Branch VII (Paediatrics)**.

This has not previously been submitted by me for the award of any degree or diploma from any other university.

(Dr. FEIZAL. A.N)

ACKNOWLEDGEMENT

This dissertation is the outcome of the efforts of many people who have helped me in many ways.

I would like to thank the **Tamilnadu Dr. M.G.R Medical University** for having given me an opportunity to carry out the research work.

At the outset, I would like to thank my beloved Dean, Govt. Kilpauk Medical College **Prof. Dr. R.NARAYANA BABU, M.D., D.C.H.,** for having permitted me to conduct the study in Govt. Kilpauk Medical College and for his timely guidance.

I express my sincere gratitude and thanks to **Prof. Dr. K. JAYACHANDRAN, M.D, D.C.H.,** Professor and Head, Department of Paediatrics, Govt. Kilpauk Medical College and Hospital for his guidance and encouragement throughout this study.

I am greatly indebted to my guide, **Prof. DR. K. SUGUNA, M.D.**, **D.C.H**., Professor, Department of Paediatrics, Govt. Royapettah Hospital/Govt. Kilpauk Medical College & Hospital. I thank her wholeheartedly for the guidance, encouragement and untiring effort she has put in from the conception to completion of this research work.

My sincere gratitude to **Prof.Dr.B.SATHYAMURTHY, M.D., D.C.H.,** professor, Department of Paediatrics, Govt. Kilpauk Medical College and Hospital for his suggestions and guidance throughout the study.

I am greatly thankful to **Prof. Dr. ARASAR SEERALAR, M.D., D.C.H.,** professor, Department of Paediatrics, Govt. Kilpauk Medical College and Hospital for his support throughout this study

I extend my heartfelt thanks to all the Assistant Professors of the Department of Paediatrics, Govt. Royapettah Hospital, **Dr. K.V.SIVAKUMAR, M.D., Dr. K.M. SENTHIL KUMAR, D.C.H.,D.N.B; Dr. N.VAITHEESWARAN, M.D., Dr. NANDHINI BALAJI, D.C.H.,D.N.B., Dr. NOOR HUZAIR, D.C.H., Dr. CHANDRASEKARAN, M.D.,** for their valuable suggestions given during the course of my study.

I would also like to thank the Assistant Professors of the Department of Paediatrics, Govt Kilpauk Medical College & Hospital, **Dr. M. SUGANYA, MD., D.C.H., Dr. N. ADALARASAN, M.D., D.C.H., Dr. RAJA VIJAYA KRISHNAN., M.D., D.C.H., Dr. RAJI., M.D., DR. SRIDEVI M.D., D.C.H., Dr. SUNDAR, M.D., D.C.H., Dr. SELVAKUMAR M.D.,** for their valuable suggestions.

My special thanks to **Prof. Dr. RAJARATHINAM**, HOD, Dept.of Psychiatry, Govt. Kilpauk Medical College & Hospital for his timely guidance and helping me with the diagnosis.

My special thanks to **Dr. JOSE MATHEW**, Postgraduate, Dept of Psychiatry, Govt. Kilpauk Medical College & Hospital for helping me with the diagnosis and taking care of further evaluation of the children.

I express my deep sense of gratitude to **Prof. Dr. SHANTHI NAMBI**, HOD, Department of Child Guidance clinic, ICH for her valuable suggestions in pursuing the research work.

I would like to extend my special thanks to **Dr. ARUN MURUGAN**, Assistant Professor, Dept of Community Medicine, Govt. Kilpauk Medical College for his guidance and help in the statistical part of my research.

I am extremely thankful to my fellow postgraduates, undergraduates for helping me to conduct the study.

I would like to thank the CRRIs & the staff nurses for their kind cooperation and help in carrying out this study.

My special thanks to **Dr. NAZEEM FARZANA,** for helping me to conduct the study.

My sincere thanks to the Educational officer, Corporation of Chennai, for having given me the permission to conduct the study at schools and also to the School Headmasters and teachers for their kind co-operation in conducting the study at schools.

I sincerely thank all the children, parents and teachers who have given consent to participate in this study and for being highly co-operative throughout this study, without them this study would not have been possible.

I thank **The Almighty** for His unconditional love and blessing and for helping me to complete the thesis work successfully.

INSTITUTIONAL ETHICAL COMMITTEE
GOVT. KILPAUK MEDICAL COLLEGE,
CHENNAI-10
Protocol ID. No.1/02/2015 Dt:01/02/2015
CERTIFICATE OF APPROVAL

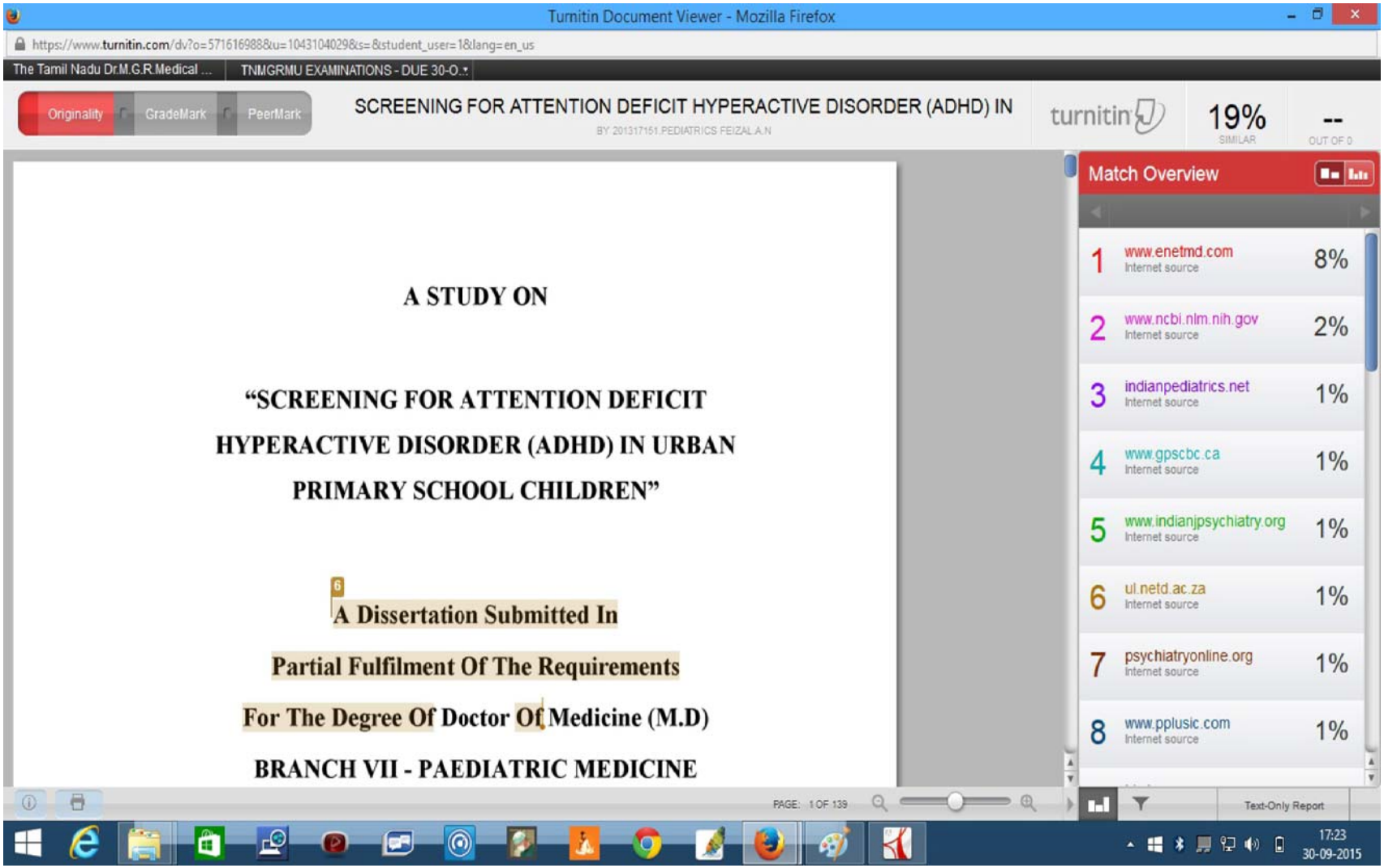
The Institutional Ethical Committee of Govt. Kilpauk Medical College, Chennai reviewed and discussed the application for approval "Screening for attention deficit hyperactive disorder (ADHD) in Urban Primary School Children" - For Project Work submitted by Dr.A. N. Feizal, PG in Paediatrics, Govt. Kilpauk Medical College, Chennai..

The Proposal is APPROVED.

The Institutional Ethical Committee expects to be informed about the progress of the study any Adverse Drug Reaction Occurring in the Course of the study any change in the protocol and patient information /informed consent and asks to be provided a copy of the final report.

GOVT. KILPAUK MEDICAL COLLEGE * Kilpauk, Chennai-10. * 27 MAR 2015

CHAIRMAN,
Ethical Committee
Govt. Kilpauk Medical College, Chennai


Turnitin Document Viewer - Mozilla Firefox
https://www.turnitin.com/dv?o=571616988&u=1043104029&s=&student_user=1&lang=en_us
The Tamil Nadu Dr.M.G.R.Medical ...
TNMGRMU EXAMINATIONS - DUE 30-O...
Originality
GradeMark
PeerMark
SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN
BY 201317151.PEDIATRICS FEIZAL.A.N
turnitin
19%
SIMILAR
--
OUT OF 0
A STUDY ON
"SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN"
A Dissertation Submitted In
Partial Fulfilment Of The Requirements
For The Degree Of Doctor Of Medicine (M.D)
BRANCH VII - PAEDIATRIC MEDICINE
Match Overview
1 www.enetmd.com Internet source 8%
2 www.ncbi.nlm.nih.gov Internet source 2%
3 indianpediatrics.net Internet source 1%
4 www.gpscbc.ca Internet source 1%
5 www.indianjpsychiatry.org Internet source 1%
6 ul.netd.ac.za Internet source 1%
7 psychiatryonline.org Internet source 1%
8 www.pplusic.com Internet source 1%
PAGE: 1 OF 139
Text-Only Report
17:23
30-09-2015

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	201317151.pediatrics FEIZAL.A.N
Assignment title:	TNMGRMU EXAMINATIONS
Submission title:	SCREENING FOR ATTENTION DE...
File name:	SOFT_COPY_OF_ADHD.docx
File size:	633.39K
Page count:	139
Word count:	20,542
Character count:	120,186
Submission date:	30-Sep-2015 03:26PM
Submission ID:	571616988

A STUDY ON

"SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN"

A Dissertation Submitted In
Partial Fulfilment Of The Requirements
For The Degree Of Doctor Of Medicine (M.D)
BRANCH VII - PAEDIATRIC MEDICINE

GOVT. KILPAUK MEDICAL COLLEGE
THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY
CHENNAI, TAMILNADU
APRIL 2016

CONTENTS

SCREENING FOR ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) IN URBAN PRIMARY SCHOOL CHILDREN

ABSTRACT

AIMS & OBJECTIVES

(i) To find out the prevalence and gender distribution of ADHD among primary School children

(ii) To find out the presence of any co-morbid disorders associated with ADHD

SETTINGS AND DESIGN

This is a cross sectional study of school aged children between 5 and 11 years were selected from 15 different Govt. schools nearby Govt. Royapettah Hospital, CHENNAI district.

MATERIALS & METHODS

1000 children aged between 5 and 11 years were randomly selected from 15 different schools in Chennai. The presence of ADHD was then assessed by using Vanderbilt assessment scale Teacher's version by their class teachers. The filled up questionnaire was then analysed and those children screened positive were verified and reassessed for the presence of any comorbid factors by using

Child Behavioural Checklist (CBCL) scale. All children screened positive were subjected to psychiatrist evaluation.

RESULTS

The prevalence of ADHD among urban primary school children in Chennai, TAMILNADU was found to be 9.67%. Prevalence of ADHD is more among male children (12.98%) compared to females (5.63%). Prevalence was highest in the age group of 10-11years. Male to Female ratio of ADHD is 2.7:1. Combined subtype of ADHD is the most common subtype (45.83%), followed by Attention Deficit (36.45%) and Hyperactive impulsive subtypes (17.7%). Children from lower socioeconomic status are more vulnerable for ADHD (9.96%) than middle & upper socioeconomic class (7.56%). Poor academic performance was the most common associated comorbid condition (18.75%), followed by poor social behavior (17.7%).

CONCLUSION

The present study shows a high prevalence of ADHD among primary school children with a higher prevalence among the males than the females.

KEY WORDS: ATTENTION DEFICIT HYPERACTIVITY DISORDER, VANDERBILT ASSESSMENT SCALE-TEACHER'S VERSION, PREVALENCE, SOCIOECONOMIC STATUS.

INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a syndrome of inattentive, restlessness, and impulsive child behaviour. It is the most common neurobehavioral disorder of childhood. [1]

Children affected by this disorder are at risk of learning disability, behavioural and social problems and are also have serious impairment such as academic failure, substance abuse and juvenile delinquency in adolescents an adulthood. Hence this disorder places substantial demand on mental health, educational, and judicial services.

ADHD reflects the interplay of biological, social, and psychological factors. Biological factors such as genetic risk are clearly implicated in the neuropathology of ADHD. Social influences are significant determinants of the impairment associated with the disorder, the prognosis for individual children, and attitudes toward the cause of the disorder and its therapy. Psychological processes, particularly deficits in attention and information-processing, mediate the link between the underlying neuropathology and the behavioural manifestations of the disorder. Consequently, the disorder is informative for the study of child psychopathology in general.

Nineteenth century studies pointed out that ADHD was described as inattentive, excessively hyperactive, and impulsive children.[2,3] In early 20th century, the syndrome was described as “Defect in moral control” which includes soft neurological signs, minor congenital anomalies, and

inattentiveness.[4] However the syndrome first appeared in modern classification, it was known as hyperkinetic child syndrome.[5,6] According to Darwinian Theory, moral control was the latest achievement of evolution and was thought to be loss as a result of various brain insults.

According to International Classification of Disease (ICD), the disorder is known as Hyperkinetic Disorder.[7] In the 2nd half of 20th century, the number of cases diagnosed with this disorder increased rapidly. The year 1980, Diagnostic and Statistical Manual (DSM) -third edition, the name of the disorder was changed to Attention Deficit Disorder. [8] Since cognitive deficit was the predominant cause than over activity. DSM-IIIR (1987) changed the name to Attention Deficit Hyperactivity Disorder and combined all symptoms into one category (inattentive, restlessness, and impulsiveness). In DSM IV (1994), the symptoms were split into inattentive and hyperactive-impulsive types.[9]

EPIDEMIOLOGY:

Prevalence of ADHD – world scenario

Due to the changes in DSM diagnostic criteria for ADHD, it is difficult to compare the prevalence estimate for last 35 years. The criteria were first described in the DSM-III in 1980.[8] The studies based on these criteria shows, a prevalence rate of 9.1 to 12 % in US population with a mean age of 9-11years[10, 11] and 5.8 to 11.2 % in non US population with a mean age of 4 to 16 years.[12,13]

The studies based on DSM-III-R criteria shows, a prevalence rate of 7.1 to 12.8% with a mean age of 5-14 years in US population (with an exception of one or two studies which reports low prevalence).[14,15,16,17] In non-US population, prevalence ranged from 3.9 to 14.4 % among children.[18,19,20,21,22]

The studies based on DSM-IV criteria shows, a prevalence rate of 9.5 to 16.1 % in US population.[23,24] In non-US population, prevalence rate of 2.4 to19.8 % with a mean age between 7-11years.[25,26,27]The studies also suggest that, the prevalence of ADHD based on DSM-IV criteria was higher than with DSM-III-R or ICD-10 criteria.[28] The authors noted that this difference in prevalence rate is due to the changed definition of ADHD in DSM-IV.

According to ICD-10, all criteria is to be met in at least two different situation and anxiety, mood, and developmental disorders as exclusion diagnosis, whereas DSM-IV requires the presence of some impairment in more than one settings for the diagnosis and anxiety, mood, and developmental disorders were considered as co-morbid conditions.

A survey report[31] in 2011-2012 published by Centres for Disease Control and Prevention (CDC),U.S Department of Health and Human Services shows, 6.4 million U.S children (11 % of all 4-17 years) had been diagnosed with ADHD by a health care provider at some point in their lives. That is 42 % increase in diagnosis from 2003-04 to 2011-12. The survey also reported 3.5 million U.S children (6 % of all 4-17 years old) were taking medication for

ADHD in 2011-2012. That is 28 % of increase in medication usage from 2007-08 to 2011-12.

Prevalence ranges for ADHD according to DSM diagnostic criteria for US and non-US populations are summarized on Table.1.

Table.1 Worldwide prevalence of ADHD [28]

	Number of studies	Approximate range for mean age (years)	Prevalence range (%)
DSM-III US studies non-US studies	 4 7	 9-11 7-11	 9.1–12 5.8 –11.2
DSM-III-R US studies non-US studies	 6 9	 8-12 6-11	 7.1–12.8 3.9–10.9
DSM-IV US studies non-US studies	 4 9	 8-10 7.5-11	 11.4–16.1 16–19.8 2.4–7.5

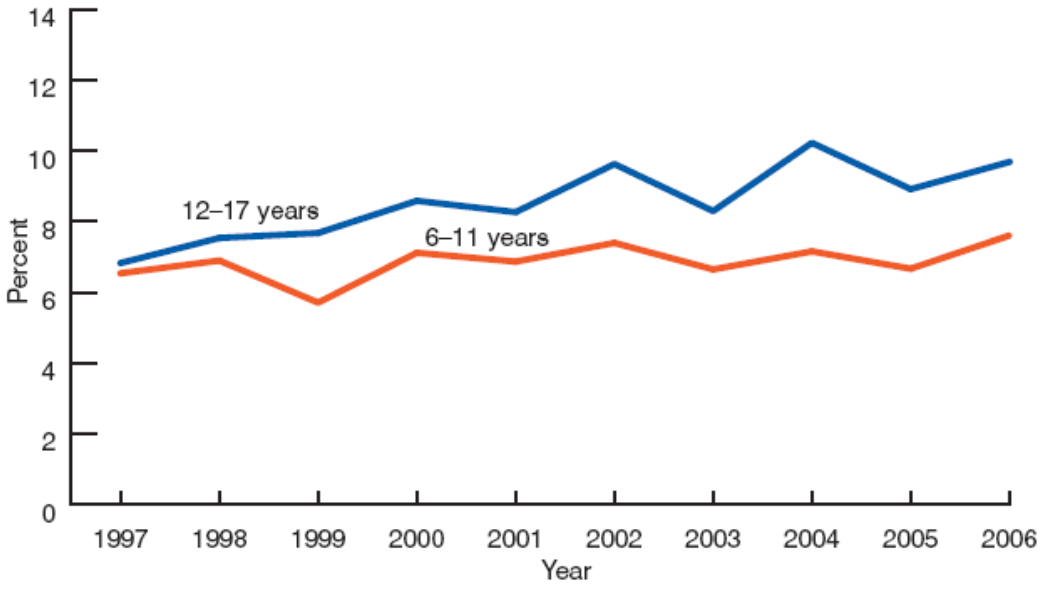


Fig:-1 CDC/National Health Care Surveys; 1997-2006

INDIAN SCENARIO:

Research on ADHD in India is in its initial stage.[32] The few studies that are available report prevalence rates ranging from 10 to 20%. [33, 34]

M.S. Bhatia et al[34]in 1998, did a study on Attention Deficit Hyperactivity Disorder among Psychiatric Outpatients in India, New Delhi and found 17.7% of children had ADHD with a Male to Female ratio of 3:1. The mean age of Male children with ADHD was 9.1 years whereas the mean age of Female children was 7.9 years.

Prahbhjot Malhi et al[35] in 1999, done a study on Spectrum of Attention Deficit Hyperactivity Disorders in Children among Referrals to outpatient Psychology Services at Chandigarh, India found that 8.1% meet the DSM IV criteria for ADHD. The Male : Female ratio in children with ADHD was 5 : 1. The mean age of the children with ADHD was 6 years and 8 months. 50% were diagnosed to be primarily hyperactive-impulsive type, 35% were primarily inattentive type and 15% were combined type. Forty per cent of the children with ADHD had a comorbid disorder. Four children with ADHD had a comorbid specific learning disorder, three met the clinical criteria for oppositional defiant disorder, and one child had a comorbid Tourette disorder.

Venkata JA et al[36]in 2013,done a study on Prevalence of attention deficit hyperactivity disorder in primary school children at Coimbatore, Tamil Nadu, India. The prevalence of ADHD among primary school children was found to be 11.32%. Prevalence was found to be higher among the males

(66.7%) as compared to that of females (33.3%). The prevalence among lower socio-economic group was found to be 16.33% and that among middle socio-economic group was 6.84%. The prevalence was highest in the age group 9 and 10 years.

AIM OF THE STUDY

1) To find out the prevalence and gender distribution of ADHD among primary school children.

2) To find out the presence of any comorbid disorders associated with ADHD.

REVIEW OF LITERATURE

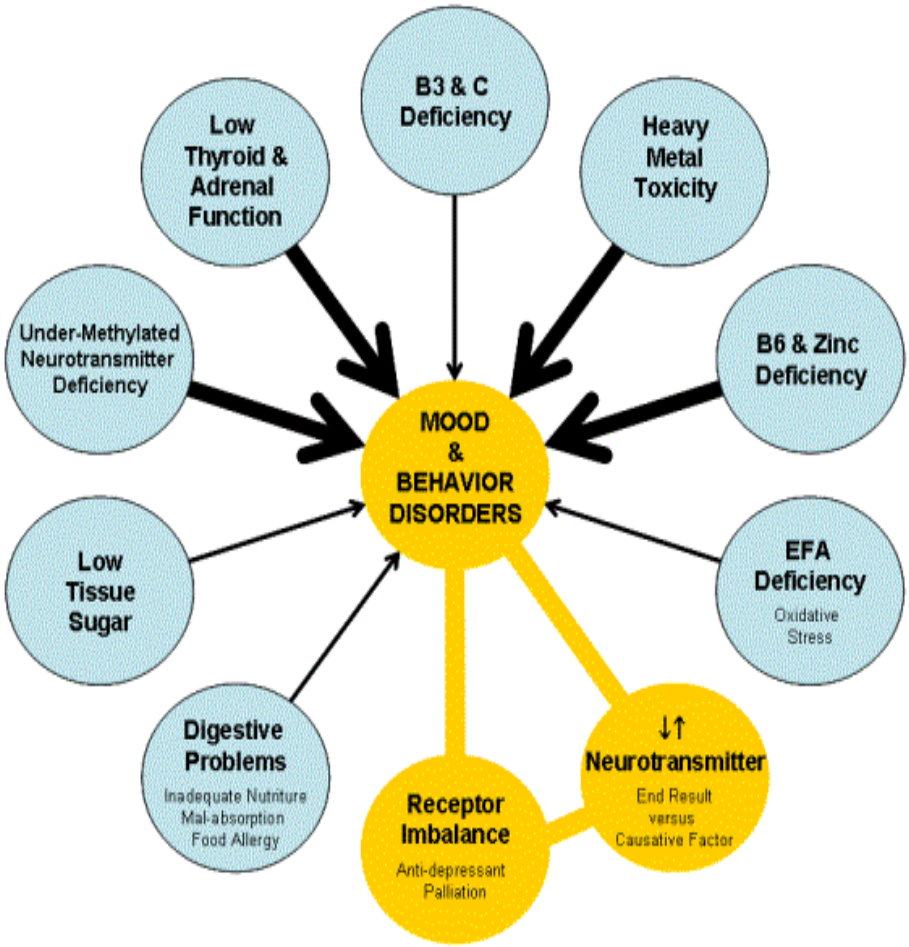
WHAT IS ADHD?

ADHD is characterised by a pattern of diminished sustained attention, hyperactivity and higher level of impulsivity in a child or adolescent which are not appropriate for someone of that age and development.

ADHD begins in childhood. According to DSM- V, some behavioural symptoms must begin before the age of 12 years.[37] The abnormality of the symptoms must be statistically inappropriate for child's age and developmental level and the duration of symptoms must be present for at least six months.[38] Although ADHD is not diagnosed in several children until their behaviours create problems in school and other places.

Though it is a childhood disorder it may continue to adulthood.[39] ADHD is not diagnosed when symptoms occur in child or adult with Schizophrenia, pervasive developmental disorder or other psychotic disorders.[40] Research also support that this disorder have a familial inheritance associated with changes in central nervous system structures and its metabolism.[41] So the treatment of ADHD patients includes multiple interventions along with a complete assessment of current functioning in multiple domains of family, school, peer relationships and comorbid symptoms.

AETIOLOGY:



There is no clear aetiological evidence for ADHD. The precise cause is unknown. Aetiology of ADHD includes complex interactions of neurochemical and neuroanatomical systems. Most of the ADHD children have no evidence of gross structural damages in the Central nervous system.

Various studies suggesting different contributory factors for ADHD during early childhood includes, prenatal mechanical insult to foetal nervous system, prenatal toxic exposure and prematurity.[44,51,52] Food addictives,

preservatives, colouring agents and sugar have also been proposed as possible causes of hyperactivity. But there is no scientific proof which indicates that these factors cause ADHD.

Causes can be categorised as follows:

1. Genetic factors
2. Perinatal causes
3. Neurological causes
4. Environmental
5. Society
6. Diet
7. Allergy
8. Other illnesses

GENETIC FACTORS:

ADHD certainly shows a familial inheritance. Therefore, it is likely to have a genetic contribution. Biederman et al.[42]reported that the relatives of ADHD children have a higher likelihood to get afflicted with the disorder comparing to the children without the ADHD relatives. Children born to ADHD parent are at higher risk.

Siblings are twice at risk when one is ADHD afflicted.[43] Concordance rates of ADHD in monozygotic twins than in dizygotic twins suggest an another evidence for its genetic component.[41]

PERINATAL CAUSES:

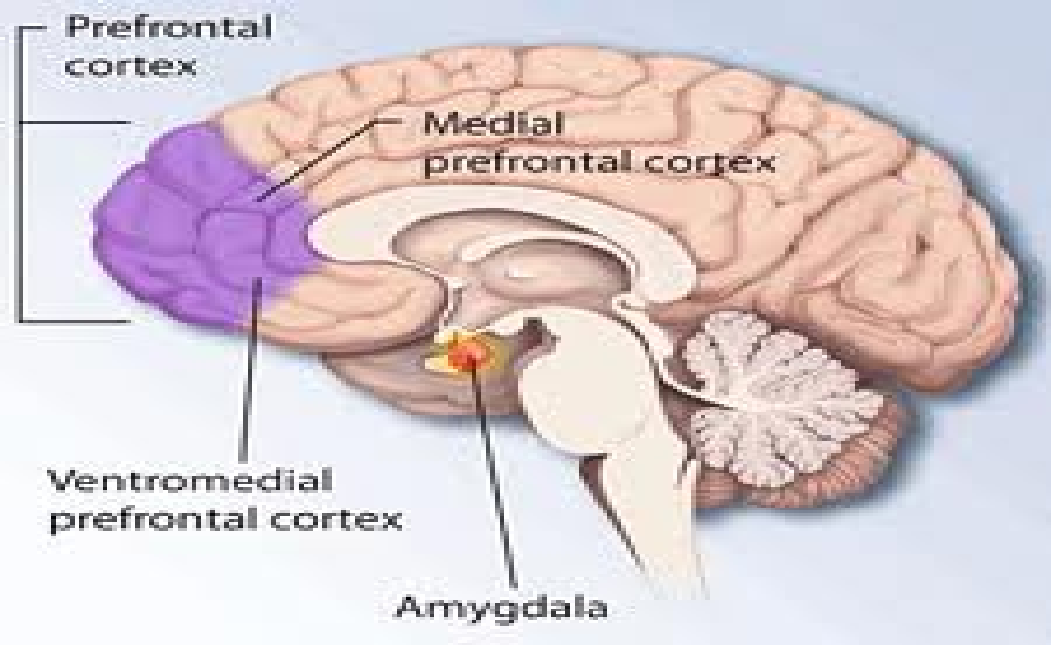
Several studies show an association between ADHD and perinatal complications. The perinatal complications including antepartum haemorrhage, prolonged labour, low birth weight [(44)], foetal distress and other birth complications are associated with later ADHD. In a retrospective study conducted on the children who had ADHD was found to have history of perinatal complications than children born with no perinatal complications.[(45)] Maternal infection also plays a role as per this study.

A study done by Bhutta, Cleves, Casey et al(2002) shows a two fold increase in ADHD in low birth weight children.

NEUROLOGICAL CAUSES:

Brain damages which are both structural and functional play a role in ADHD. Neuro-imaging studies suggest the importance of the fronto-striatal region of the brain in ADHD and the pathways connecting this region with the limbic system (via the striatum) and the cerebellum.[(46)]Children with ADHD have smaller right prefrontal cortex, structural abnormalities in areas of the basal ganglia (e.g., caudate nucleus), smaller total and right cerebral volumes, smaller cerebellum, and delay in brain maturation in the prefrontal cortex. Children with ADHD lag 2-3 years behind children without ADHD in development of the prefrontal cortex.[(47, 48)]

Studies also pointed that, ADHD occurs in 25 % of cases after a traumatic brain injury. Brain injury may show some signs of behaviour similar to ADHD.[49,50]



ENVIRONMENTAL:

Exposure in utero to environmental toxins like heavy metals, drugs, alcohols can cause disruptive behavioural problems. Prenatal smoking [51], alcohol, and nicotine use by mother can leads to symptoms of inattention and hyperactivity during development.[52] High levels of Lead in the body of a preschool children may be associated with a higher risk of ADHD.[53] But now a days, Lead is no longer allowed in paints. So the children living in old buildings painted with paints containing lead may be at risk.

SOCIETY:

Family dysfunction or poor educational systems have a higher contribution towards ADHD than individual problems. Children suffering extreme neglect and abuse may higher risk for ADHD.[54] Youngest children in the class is found more likely to be diagnosed to have ADHD.

DIET:

Role of dietetic influence on the disorder afflictions is quite controversial. There are studies are widely exist to support and to refute the dietetic agents.[55,56]Diet that may have an influence on the behavioural problems are refined sugar, preservatives, artificial dyes, and food allergens. In 1982, the National Institute of Health (NIH) conducted a scientific conference and was found that diet restrictions helped about 5% of ADHD children, mostly children who had food allergies. In 1985, another study showed no significant effects of refined sugar on learning and behavioural problems.[55]

ALLERY:

Any allergies/allergic type of diseases like atopic eczema or bronchial asthma are at increased risk for afflicting ADHD.[57] These are least supported by research evidences.

OTHER ILLNESS:

Thyroid abnormalities constitute an important set of paediatric ailments that contribute to ADHD incidence. The prevalence of thyroid hormone

abnormality in ADHD children are exceedingly low.[58] Studies reports, the higher incidence of ADHD in children with genetically inherited, generalised resistance to thyroid hormone.[59]

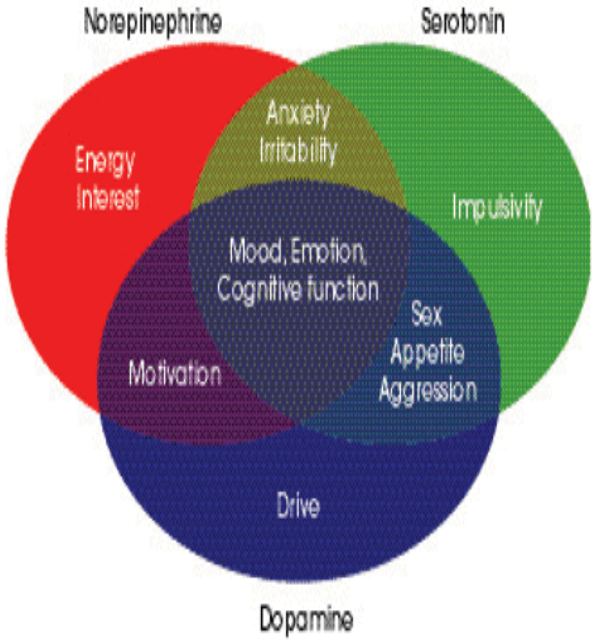
PATHOPHYSIOLOGY OF ADHD:

ADHD is a complex and multifaceted condition. Three major factors in relation to the pathophysiology of ADHD are

1. Genetic disorders
2. Frontostriatal/Executive dysfunction disorders
3. Catecholamine disorders

Figure

Neurotransmitter Influences



Slaby AE, Tancredi LR. *Primary Psychiatry*. Vol 8, No 4. 2001.

GENETIC DISORDERS:

The monoamines like dopamine, norepinephrine, and serotonin have been a major role in the pathophysiology of ADHD. Three polymorphisms of dopamine genes such as D4 (DRD4), D5 (DRD5) receptors and the dopamine transporter (DAT1) effects have been reported. Of these, DRD4 and DAT1 have more functional significance.[60,61,62,63] The studies in animals shows an association of polymorphisms of the serotonin transporter and receptor gene with ADHD. There is no evidence of nor-epinephrine gene variants associated with ADHD.[64]Genes may interact with each other and with the environmental risk factors to increase the risk of ADHD.

FRONTOSTRIATAL/EXECUTIVE DYSFUNCTION DISORDERS:

Executive function means numerous mental processes which are required to control, regulate, and tackle life task. Impairment of above functions includes disorders with planning, working memory, response inhibition, attentional flexibility, and speech fluency. ADHD patients faces difficulty in executive function with these kind of symptoms.[65,66] Executive functions depends on neural systems involving the prefrontal cortex and associated subcortical structures.[67,68] These neurons are rich in neurotransmitters like dopamine and nor adrenaline, that play an important role in inattention.[69,70] Their involvement in executive function is confirmed by imaging, neuro pathological and electrophysiological studies.[71,72]

The studies observed that ADHD children show a general reduction of volume of brain structures up to 5%. The studies also reported that children with ADHD may have a smaller, asymmetrical prefrontal and basal ganglia structures, especially on right side.[73,48]

CATECHOLAMINE DISORDERS:

The studies shows an indirect evidence for association of catecholamine dysregulation and ADHD.[69,70] The symptoms of ADHD are reduced by dopamine and nor epinephrine agonist such as amphetamine, atomoxetine, and methyl phenidate. These drugs have a different mechanism of action but similar clinical effect.

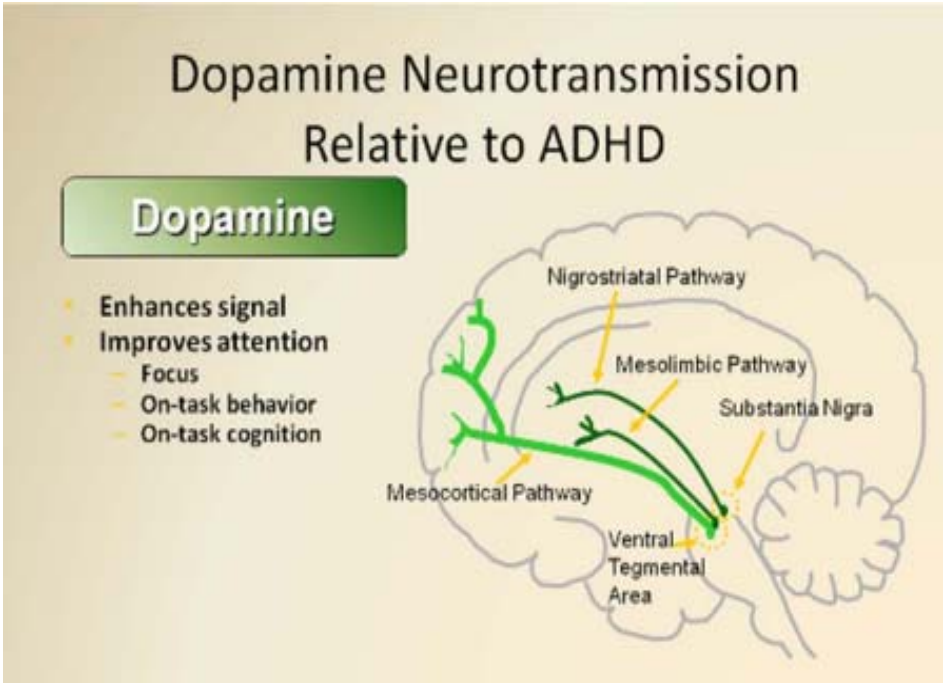
Dopamine and nor epinephrine are widely distributed in the brain. ADHD shows an association with functional derangements in dopamine and nor epinephrine. [74]

Dopamine pathway has two main branches:-

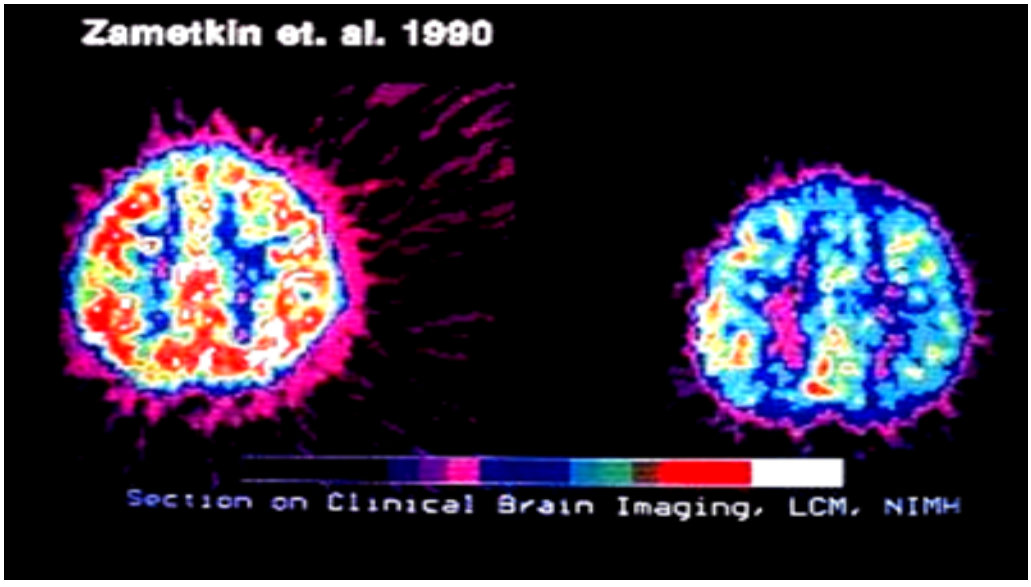
1. Meso-cortico-Limbic branch
2. Nigro-striatal branch.

The Meso-cortico-limbic branch projecting from ventral tegmental area to amygdala,ventral striatum, and frontal cortex. The Nigro-striatal branch projecting from substantianigra to striatum.

The nor epinephrine pathway projecting from locus ceruleus and into the cerebellum. These two pathways are known to have a key role in the pathophysiology of ADHD.

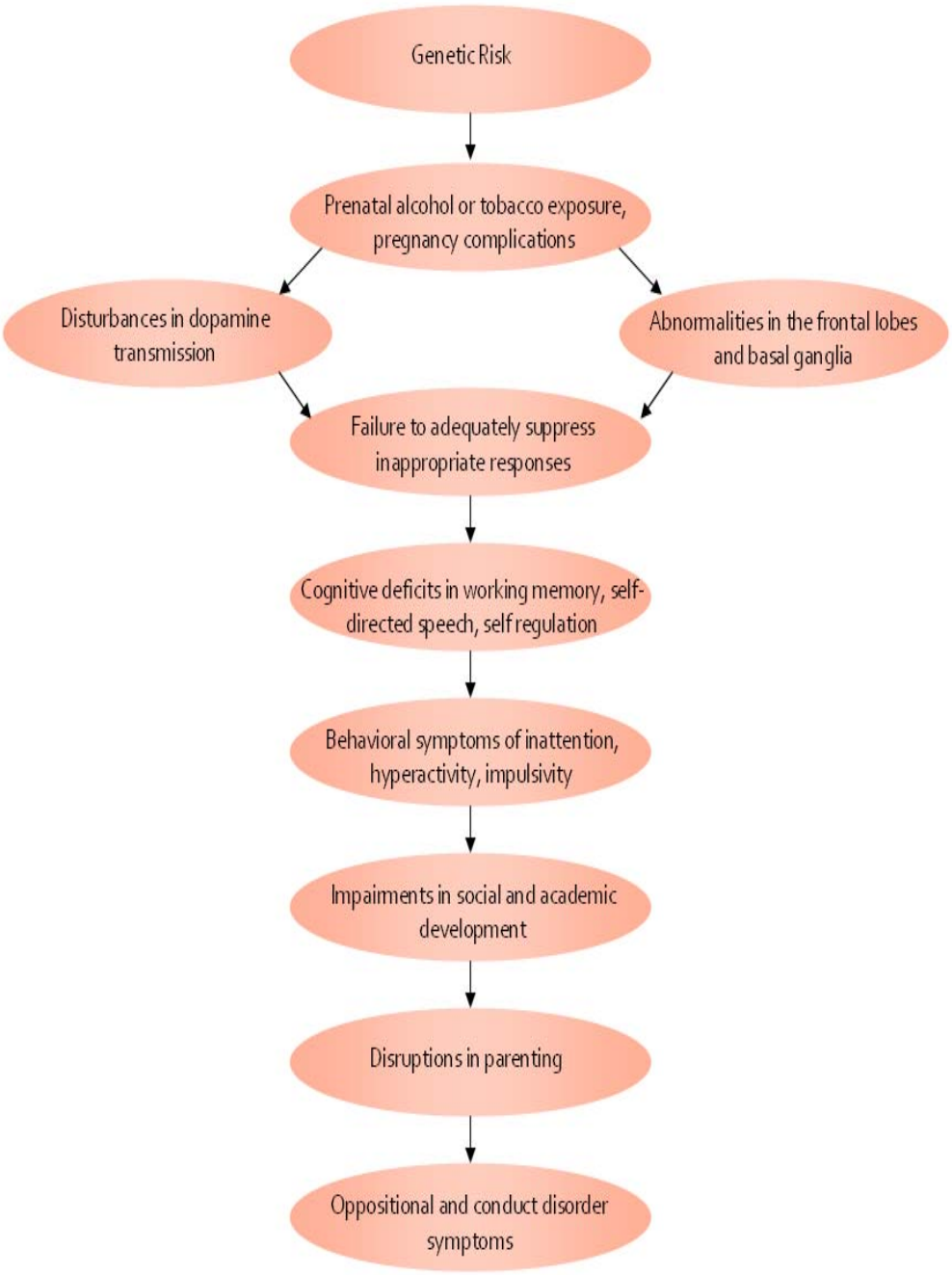


PET[71] and SPECT scan studies reported an increased dopamine binding in the striatum in ADHD.



Comparison of normal brain (left) and brain of ADHD patient.

SUMMARY OF PATHOPHYSIOLOGY OF ADHD



Mash & Wolfe; 2007

SUBTYPES OF ADHD:

Over the past century, many diagnostic labels have been applied to children with ADHD. The Diagnostic and Statistical Manual of Mental Disorders (DSM), published by the American Psychiatric Association is used to identify the full range of child and adult mental health disorders by medical and mental health professionals across the country and is revised periodically to reflect changes in our understanding of mental health disorders based on research studies. According to DSM –V, there are three subtypes of ADHD:

(1) ADHD-predominantly inattentive type

(2) ADHD-predominantly hyperactive/impulsive type

(3) ADHD-combined type

(1)ADHD-predominantly inattentive type:

Many children have ADHD-predominantly inattentive subtype, formally known as Attention Deficit Disorder without hyperactivity. This is the most common type of ADHD in school settings. These children are not those usually thought to have ADHD because they are not over active. In fact, they may be underactive or lethargic. These are children who are extremely inattentive. Here are some common problems experienced by the ADHD-predominantly inattentive type:

Common problems in class room:

- daydreams
- doesn’t complete work
- forgetful
- fails to attend to details
- seems tired
- “in a fog”
- disorganized
- loses things
- messy desk
- needs close supervision to stay on task
- may have learning problems
- great difficulty attending to tasks
- easily distracted by internal and external stimuli

Common problems with peers:

- withdrawn
- quiet
- ignored by peers
- socially immature
- inattentive during conversations

Common problems in Home:

- homework not completed
- chores forgotten
- needs constant reminders
- messy and disorganized
- always losing things
- spacey
- doesn't seem to listen

(2) ADHD-predominantly hyperactive/impulsive type:

These are children who are over active and impulsive, but not currently showing signs of too many difficulties with inattention. This subtype of ADHD children appears to be associated with disruptive behaviour, aggression, and peer problems more so than academic deficiencies. About half of the children or more with this subtype are in first grade or younger, predominantly in preschool.

Studies shows that many of these younger children started showing signs of inattention as they become old enough to encounter academic seatwork. This means many of these children end up the criteria for ADHD-combined subtype by the time they are in middle elementary school. Here are some common problems experienced by the ADHD-predominantly hyperactive/impulsive type.

Common problems in class:

- over active
- doesn’t sit still
- falls out of seat
- fiddles with things
- too talkative
- calls out without raising hand
- impatient
- wants peer attention
- doesn’t accept consequences
- easily frustrated
- doesn’t adhere to rules
- noisy and disruptive
- wants immediate gratification
- difficulty persisting with uninteresting activities
- messy and disorganized

Common problems with peers:

- physically intrusive
- touchy
- butts into activities
- easily frustrated

- bossy
- insists on own way
- misses social cues
- doesn’t inhibit inappropriate comments
- can’t see others viewpoints
- doesn’t ignore provocation
- wants to switch activities too often
- rejected by peers

Common problems at home:

- doesn’t listen
- rushes through or fails to complete homework
- interrupts conversations
- doesn’t put things away
- quick to lose temper when needs not met
- forgets chores
- dawdles in the morning
- hates to wait
- acts before thinking
- reckless
- lacks independence in self-care

(3) ADHD-combined type:

ADHD-combined type is the classic variety of ADHD and is the most common type referred to clinics for evaluations and treatment. This subtype of ADHD children shows both inattention and hyperactivity/impulsive symptoms. Many of these children are at risk for aggressive behaviour and conduct problems. Repeated failure with peers and poor grades often chip away at the self-esteem of many of these children as they get older.

WHO GETS ADHD?

It is found in many of the studies that boys with ADHD outnumber girls [12, 34, 36]. Girls with ADHD are different from boys in that they are less often disruptive and physically aggressive and more likely to have the inattentive type of ADHD. Girls are more likely to exhibit relational aggression like exclude peers, spread rumours, gossip, tell lies than boys and they may be at increased risk of eating disorders. They may also be more at risk for negative peer experiences such as peer rejection, fewer dyadic friendships because of their high activity and impulsivity and their often co-occurring cognitive and language problems, which may interfere with the emphasis on verbal interchanges in girl friendships. Most of the girls with ADHD do not come out of their problems, and they have a similar negative trajectory across domains of impairment as their male counterparts and have the same response to treatment. The risk for girls is that the condition is often undetected, and so untreated,

because they often lack the disruptive components and because ADHD is often thought of as a boy's disorder.

First degree relatives of the children with ADHD are more likely to get ADHD[42] as well as other illness like anxiety and mood disorders, substance abuse problems and learning disabilities. Children with history of prenatal drug exposure, multiple foster placements, abuse or neglect, low birth weight are also more prone to have ADHD.

Age of onset:

Based on research study or clinical assessment estimating the age of onset of ADHD in any individual case is very difficult. Only estimates of age at onset can be assessed by studies on clinical population [75] as well as prevalence focussed epidemiological studies [76] that is also based on the retrospective reports of the child or parents; or from the school reports or physician records. Prospective epidemiological study is the one which can provide a more accurate estimate of age of onset of this particular disorder if the study is started in early childhood, by following the children at very early age and if repeated diagnostic assessments are done in regularly spaced intervals. Report presented by the parent regarding the onset of their child's behavioural issue appears to have a good reliability and is a stable one [77]. Children as such normaly do not have an ability to provide an estimate of the age of onset of the disorder in them. It is well understood by the research that the roots of the behavioural disorders begin in early childhood. By definition according to

DSM V with at least some symptoms present before age of 12 years [37]. With the wide spread increase in the preschool and day care programmes for children , any kind of behavioural disorders attracting more clinical attention and treatment in this age group has become a focus of additional research[78,79].

Clinical presentation:

Clinical referral comes to mental health providers as a result of uncommon and disruptive behaviour shown at home, school, or because of academic failure. Not all persons in general population who meet criteria for ADHD come to clinical attention [80] and those who comes to the clinicians have ADHD that is particularly severe in terms of symptomatology and is more likely to be associated with comorbid clinical conditions.

Accurate diagnosis of ADHD depends more on getting a well taken behavioural history and less on direct mental status examination of the child in the clinic. But the problems on direct questioning section is, the child will deny being symptomatic and will not complain any symptoms. The clinician also must do rely on reports obtained from teachers and parents and should make use of direct observation of patient's behaviour when study is conducted in social situation such as classroom. Anyway diagnostic decision or choice of treatment depends on clinicians experience in working with other ADHD afflicted children and clinical judgement. Though the American Psychiatric Association's DSM classification system has been changing for the past 15 years, ADHD has retained 3 key factors:

(i) Inattention

(ii) Hyperactivity

(iii) Impulsivity

The behavioural pattern in the child with ADHD normally had exaggerations of normal childhood activities. Inattention and Hyperactivity of the child unpredictably interact with the environmental setting and are age dependent. For example, preschool aged child with ADHD rapidly moves about the room and touch all the objects and manipulate them in a haphazard manner or climbs, jumps, or runs out of control. In a family function or a birthday party ADHD child can be pointed out easily as they becomes wild, overactive, noisy and uncontrollable when the occasion is unstructured.

In the classroom, these type of child shows inattentiveness predominantly. They appears to be day dreaming and preoccupied. The child squirms and moves restlessly about when seated. This may also seriously interfere with the child's academic performance. At home it is very difficult to manage the child for the parents as they will not listen to any commands or not following through on even most simple requests and they will not be able to complete their homework.

ADHD children may have to face difficulties in impulse control and show high level of motor activities. Activity level is generally high for ADHD children even during sleep [81]. During physical education class the activity may go down because the children with ADHD have trouble modulating their

behaviour downward in academic class or upward while playing as the social setting demands. On the playground, other children often find that inattentiveness and impulsivity in ADHD children and make them poor teammates [81].

Duration of Disorder:

ADHD is not thought to be episodic but rather chronic or enduring [82]. ADHD can be identified early in preschool-aged children, at that time it may be associated with marked impairment, aggression, and language delay.[83] Although most of these preschool-aged children are referred for clinical assessment, after children start their school. ADHD has effects on these children that persist throughout their adolescence and adulthood.

There is a tendency for symptoms, especially restlessness, to diminish when children reach adolescence, although inattentiveness and impulsiveness are more persistent.[84] Academic and educational problems persist into adolescence; by the time they are adults, hyperactive children have completed significantly less schooling and hold lower-status jobs than their non-hyperactive peers.[85]. The studies of clinical samples pointed that at-least some impairment of ADHD is present in most adolescents who had been referred for treatment as school aged children.[86] Follow up studies of referred children into adulthood shows that impairment persists in a sizable percentage of patients and the complications of the disorder include an increased risk for developing antisocial behaviour and possibly substance abuse.[87] In conclusion, It is clear

that the ADHD persists into adolescence in half or more of the affected persons seen in clinics, and into adulthood in half or more of adolescent cases.[86,87]

DIAGNOSIS OF ADHD:

Diagnoses of ADHD are made primarily on clinical grounds after a thorough evaluation, whose components include the behaviour rating scales, clinical interview, physical examination, and neuro-psychologic evaluation.

Behaviour rating scales:

Several standardized behaviour rating scales are widely available and perform well in distinguishing children with the ADHD from those without.(e.g., Conner's Rating Scale; Vanderbilt assessment scale, ADHD Index; Swanson, Nolan, and Pelham Checklist [SNAP]; ADD-H: Comprehensive Teacher Rating Scale [AcTERS]). Since these scales measure the presence and intensity of ADHD symptoms these scales may be useful for screening community or clinical populations and for providing standardized measures of the severity of the symptoms so that they may be compared across samples or used to monitor treatment. Other broad-band checklists, such as the Achenbach Child Behaviour Checklist (CBCL) are useful in screening for co-occurring problems in areas other than ADHD such as anxiety, depression, conduct problems, etc.[1] These scales have limitations, these are less useful for distinguishing children with ADHD from those with other disorders. These scales are useful in establishing the magnitude and pervasiveness of the symptoms but are not sufficient alone to make a diagnosis of ADHD.[1]

Clinical interview:

The diagnosis of ADHD is based primarily on a clinical evaluation that includes history obtaining from the parents about the child's development and behaviour, a direct examination of the child, and a review of the information provided by the child's school teachers. The interviews with parents and teachers have the advantage over questionnaires in eliciting descriptions of the child's behaviour in a wide range of situations such as those during structured and unstructured tasks, group and individual work, and academic and recreational activities. This Semi-structured interviews minimizes the informant bias that arises from expectations of the child's behaviour or the presence of a comorbid psychological illness.[88,89] This approach also broadly cover the symptoms of potentially comorbid disorders and elicit descriptions of parenting practices and other contextual factors that are important for planning treatment. A direct interview with the child's school teacher is preferable to a second-hand parental report of the child's behaviour at school or to a questionnaire completed by the teacher.

An interview with or direct observation of the child is essential for the assessment. The doctor may be unable to observe the child's symptoms first-hand in all cases. Children with ADHD are able to suppress their inattentiveness, restlessness, and impulsiveness to a great extent in novel and highly structured situations, such as hospital. However, parents and teachers can provide a picture of the child's typical behavioural, developmental, and social history, and response to variations in the environment. Direct

examination of the child may be limited by the child's apparent lack of insight into their behaviour or an inability to communicate as a result of language or learning difficulties. The individual child assessment may be useful for identifying comorbidities such as anxiety or depression, monitoring treatment, and establishing the rapport required to sustain a prolonged intervention. No medical screening or laboratory tests are specific to ADHD.

ASSESSMENT OF INATTENTION:

To measure the attention in children to date no standardized office procedure is available. The inattention is best determined by history. The clinician enquires about the attention problems to the teachers or parents, when the child presents with difficulty in concentrating, short attention span or inability to modulate attention in response to external demands.[90] The inattentive children have difficulty in processing the class work. For a task they spend more time and will stay always out of their seat. They cannot complete a goal directed task without frequent refocusing from another person. Oversolicitous with the teacher is another problem which means they are more often trying to answer questions that are not understood. Other children complete their tests, assignment sheets and work book faster and children with ADHD produce only little product even if they are brightest in the class. Which cause frustration to the teachers as the brighter student shows scanty or poor quality of work.

At home, children with ADHD shows trouble while listening to adults. They use to look away and avoid making eye contact when speaking with an adult. They show difficulty to do any multi-commission commands or forget often what they were asked to do. ADHD children always seem to be rushed, on the way in a hurry or busy. So they may start several activities at a time and will not finish any of them.

To monitor the task performance of children with ADHD laboratory based research studies have used a number of procedures. But these laboratory measures detect attention deficit which are obvious only in the classroom. The common test is known as continuous performance test (CPT), which measures the sustained attention.[91] In the test the child is ask to watch a computer screen continuously for 10-15 minutes. And the child is asked to pick out the correct target among a group of non-target letters that flash on the computer screen and asked to press a key when they get the correct letter or a combination of letters is seen. Many modifications have been implemented to avoid floor and ceiling effects including visually degrading the stimuli on the screen, varying the time between the stimuli or playing movie sound on the earphones during the task, depending on the performance of the child.[91] CPT is also sensitive to drug effects[92] and dose of drug.

Laboratory based measures of attention do not correlate with the child's classroom performance always.[93] The attention dysfunction as measured by CPT is a non-specific correlate of child psychopathology in general. There is no difference in CPT results among children with ADHD, conduct disorder, or

anxiety disorder. Also these studies has downplayed the role of a sustained attention deficit as a sole cognitive deficit in ADHD.[94] In addition, the sustained attention which is tracked by the continuous performance test does not tap other important attention functions that required in complex tasks.[95] Other laboratory measures have been used in the research, and some find their way into market place. These laboratory measures are not diagnostically specific and none of these procedures has been widely accepted for clinical work.

ASSESSMENT OF HYPERACTIVITY:

ADHD children generally display a higher activity level during in-seat or structured activities[96], that means children with ADHD manifest significantly higher activity levels at school in the classroom[88], at home, and while sleeping at night than children without ADHD.[81] The children with ADHD are commonly appears to be driven, restless, and never feels tiring. Developmentally inappropriate degree of gross motor activity in the school or home is diagnostic of ADHD. So many kind of sedentary activities like sitting in church or school, long riding in a car, or even going to a movie leads to high level of restlessness and noncompliance. In the school, children are asked to sit still, quiet, and work independently, particularly children with ADHD make noises, hum, tap on their desks, squirm in their chairs, they do enjoy climbing and disturb other children.

ASSESSMENT OF IMPULSIVITY:

Impulsivity means the child acts without fore-thought of the consequences, and seems to be unaware of danger or the relationship between cause and effect. These children willing to take dares. Academic task which requires self-monitoring, organization, individual initiation or self-pacing, may best reveal the impulsivity in ADHD children. Bright children with ADHD shows a rapid onset of boredom during homework and will have a strong feeling that I do much at school so why I have to do the same at home also.

When the child with ADHD is insisted by the teachers to complete the unfinished class work at home, it further burden the child and they finds most difficult. During the homework struggle, secondary behaviour pattern often develops particularly in avoiding routines, such as rushing through the homework without concern of errors, leaving important books at school, and forgetting assignments. These type children will start three or more other activities and not complete either homework or other assignments, if unsupervised. Due to this, the parents become discouraged as they spend much of their time hovering on their child while the child struggles with homework.

During early years, the child's impulsivity may take in the form of a robot like behaviour in which the child must touch, pick up, or manipulate every object in the room. This pressure always drives the child from one toy to other, disrupting all objects in their path. In school these impulsive ADHD children interrupt other children constantly. They often refuse to wait for their

turn while playing and is disliked by potential peers. They often have difficulty in regulating their emotions and may be prone to outbursts. They are often risk takers and disregard rules that don't meet their immediate needs.

The diagnosis of ADHD is based on the criteria outlined in Diagnostic and Statistical Manual for Mental Disorders (DSM-V) published by American Psychiatric Association.

DIAGNOSTIC CRITERIA:

(A) A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterised by (1) and/or (2):

(1) INATTENTION: To meet the criteria for inattention, at least six or more of the following symptoms must have persisted for at least six months to a degree that is inconsistent with developmental level and that negatively impacts directly on social, academic and occupational activities. The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or failure to understand instructions or tasks. For older adolescents and adults that is age 17 and older, at least five symptoms required.

The children often:

(1) fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities

(2) has difficulty sustaining attention in tasks or play activities

(3) does not seem to listen when spoken to directly

(4) does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace

(5) has difficulty organizing tasks and activities

(6) avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

(7) loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)

(8) is easily distracted by extraneous stimuli

(9) is often forgetful in daily activities

(2) HYPERACTIVITY AND IMPULSIVITY: To meet the criteria for hyperactivity and impulsivity, at least six or more of the following symptoms must have persisted for at least six months to a degree that is inconsistent with developmental level and that negatively impacts directly on social, academic and occupational activities. The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or failure to understand instructions or tasks. For older adolescents and adult s that is age 17 and older, at least five symptoms required.

The children often:

(1) fidgets with hands or feet and squirms in seat

(2) leaves seat in classroom or in other situations in which remaining seated is expected

(3) runs about or climbs excessively in situations in which it is inappropriate

(4) has difficulty playing or engaging in leisure activities quietly

(5) is “on the go” or often acts as if “driven by a motor”

(6) talks excessively

(7) blurts out answers before questions have been completed

(8) has difficulty awaiting his or her turn

(9) interrupts or intrudes on others

(B) In addition, several inattentive or hyperactive/impulsive symptoms need to have been present since before the child turned 12 years old.

(C) Several inattentive or hyperactive/impulsive symptoms are present in at least two or more settings that is, at home, school, with friends or relatives, in work or other activities.

(D) There is clear evidence that the symptoms reduce or interfere with quality of academic, occupational or social functioning.

(E) The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder such as mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal.

Specify whether:

314.01 Attention-deficit/hyperactivity disorder, combined type: if both criteria A1 and A2 are met for the past 6 months

314.00 Attention-deficit/hyperactivity disorder, predominantly inattentive type: if criterion A1 is met but criterion A2 is not met for the past 6 months

314.01 Attention-deficit/hyperactivity disorder, predominantly hyperactive–impulsive type: if criterion A2 is met but criterion A1 is not met for the past 6 months

Specify if:

In partial remission: For individuals especially adolescents and adults, who currently have symptoms that no longer meet full criteria, "in partial remission" should be specified.

Specify severity:

Mild: Few Symptoms in excess of those required to make the diagnosis are present and symptoms result in no more than minor impairments in occupational and social functioning.

Moderate: symptoms of functional impairment between mild and severe are present.

Severe: Many symptoms in excess of those required to make the diagnosis or several symptoms are particularly severe, are present or symptoms result in marked impairment in occupational or social functioning.

A WORD ABOUT ICD-10:

In Europe and many other countries where the International Classification of Diseases (ICD) is used [(7)], the disorder was known as the hyperkinetic disorder (HD). This is because of the existing emphasis on hyperactivity as the cardinal manifestation of the syndrome.[(97)] The European approach to the definition and classification of ADHD differs from that of North America. The recent editions of ICD classifications and DSM reflect an effort to bring the definitions of HD and ADHD closer together. Both adopted almost identical criteria for the identification of inattentive, hyperactive, and impulsive symptoms.

But still significant differences are evident in their diagnostic algorithms. According to ICD-10, to establish a diagnosis of HD, at least six inattentive, three hyperactive, and one impulsive symptom must be present. The diagnosis cannot be made in the absence of the symptoms of inattentiveness.ICD-10 is also more rigorous about cross-situational pervasiveness, requiring that all necessary criteria be present, both at school and at home or other situations. DSM-V is more lenient; it demands evidence that criteria be met in at least one situation and that impairment be present in another, without stipulation of the number of symptoms present or their severity in this second situation.

The diagnosis of HD based on ICD-10 is more severely impaired than those with a diagnosis of ADHD based on DSM-V.

Differences between U.S and European Criteria for ADHD or HKD:

DSM-5 ADHD	ICD-10 HKD
SYMPTOMS Either or both of following:	All of following:
At least 6 of 9 inattentive symptoms At least 6 of 9 hyperactive or impulsive symptoms	At least 6 of 8 inattentive symptoms At least 3 of 5 hyperactive symptoms At least 1 of 4 impulsive Symptoms
PERVASIVENESS	
Some impairment from symptoms is present in >1 setting	Criteria are met for >1 setting

Biederman J, Faraone S: Attention-deficit hyperactivity disorder, Lancet *366:237–248, 2005.*

PHYSICAL EXAMINATION:

Poor coordination, Impaired fine motor movement and other subtle neurologic motor signs like difficulties with finger tapping, alternating movements, finger-to-nose, skipping, tracing a maze, cutting paper are common [(98)], but they are not sufficiently specific to contribute to a diagnosis of ADHD. The presence of hypertension, ataxia, or a thyroid disorder should prompt further diagnostic evaluation. The clinician should also identify any possible vision or hearing problems. Reliance on observed behaviour in a physician's office can result in an incorrect diagnosis. [(98)]

NEURO-PSYCHOLOGIC EVALUATION:

Neurological evaluation is to be done to rule out other neurological illness especially neurodegenerative disorders. Psychological evaluation is to be done to find out the coexisting psychiatric conditions with possible ADHD presentation.

COMORBIDITY:

The children with ADHD meet the criteria for more than one concurrent psychiatric disorder is known as comorbidity. Researches on clinical and epidemiological samples of children with ADHD found to have a high frequency of overlapping symptoms and diagnosable disorders including anxiety and mood disorders as well as other disruptive behaviour disorders [(12)]. Recognition of these associated comorbid conditions carries important implications for assessment, treatment approaches, and prognosis. In general, the high frequency of associated comorbid illness has been argued to reflect the heterogeneity of ADHD itself.

Various psychiatric states should be assessed clinically in individuals with ADHD, even though strong statistical associations have not been shown for each of these conditions.

Psychiatric Disorders Often Associated With Attention-deficit/Hyperactivity disorder
Conduct disorder
Oppositional defiant disorder
Anxiety disorders
Learning disorders
Motor skills disorder
Substance use disorders
Communication disorders
Bipolar disorder
Major depression
Posttraumatic stress disorder
Obsessive-compulsive disorder
Tourette's disorder
Schizophrenia
Intellectual disability
Pervasive developmental disorders, including autistic disorder

Source: American Psychiatric Association, 2000

ADHD and Oppositional defiant disorder (ODD)/Conduct Problems:

More than half of the children with ADHD are also very stubborn, defiant, and aggressive (Barkley, 2006). When sufficiently chronic and severe, these problems make up a separate disorder called oppositional defiant disorder (ODD). The most common comorbid condition found in both epidemiological and clinical samples of children with ADHD are ODD and Conduct disorders.[(99)] These children are overtly disobedient towards teachers and

parents. They display temper outbursts, argumentativeness, defiance of authority and rules, aggressive and antisocial behaviour in addition to symptoms of ADHD. Little things may set them off and they may constantly blame other people for their mishaps. In samples of children with ADHD, approximately 35 percentage meet the criteria for ODD, and 25 percentage for conduct disorder. When ODD and conduct disorder are combined, the rate of comorbidity with ADHD rise to 50 to 60 percentage.[100] The combination of ADHD and ODD is very challenging. Even more disabling is conduct disorder. Children with conduct disorder have a pattern of breaking society's rules. They may lie, steal, run away, set fires, destroy property, or start physical fights. Often these symptoms don't emerge until the middle or high school years.

ADHD and Emotional Problems:

Emotional disorders such as anxiety and depression also often accompany ADHD. Estimates of the co-occurrence of ADHD and mood disorders have ranged from 13 to over 50 percent. The association with anxiety disorders has been reported in up to 25 percent.[101] Emotional disorders may arise independently or may be an outgrowth of ADHD, so it becomes important to clarify if a child's inattention is due to ADHD or an emotional disorders since anxiety and depression can also cause inattention. Children with both ADHD and an anxiety disorder may be more disabled by the anxiety than by the symptoms of ADHD. They are often overly and, at times, obsessively worried about things in their lives. Some children may worry about being apart from their parents. Some may worry about what their classmates think of them

or what their teachers think of them. Others may worry about meeting new people or trying new things.

They may also worry about their ADHD symptoms: forgetfulness, disorganization, and so on. Even if the majority are not clinically depressed, many are demoralized, feel poorly about themselves, and feel hopeless about changing their circumstances. Frequently, the children who are depressed appear to be chronically irritable or angry rather than sad. They may have lost interest in things they once enjoyed, and they may avoid being around other children.[(102)] Research shows that some children with ADHD have overly positive views of themselves and their competencies (Kaiser & Hoza, 2008). They may have limited awareness about their own skills and abilities due to their executive functioning problems and lack of self-regulation and insight.

ADHD and Learning or Language Problems:

Learning disorders and reading disabilities also commonly occur in children with ADHD. One out of three children identified with ADHD also have a learning disorder (DuPaul & Stoner, 2003). Language impairment in about 5 per cent of children with ADHD.[(103)]

Distinct from the academic underachievement, slightly lower intelligence quotient test scores found in groups of ADHD children. A learning disorder may be related to deficits in areas such as language processing, auditory processing, visual-spatial processing, or visual-perceptual processing. A learning disorder may be identified in one or more skill areas such as

reading, mathematics, spelling, or language. These deficits are not simply the result of inattention; they constitute a separate processing problem.[104] Symptoms of ADHD can exacerbate learning problems, and vice versa. For those students who have ADHD but not a learning disorder, inattention to task, distractibility, and impulsivity can still interfere with their ability to complete work satisfactorily. Compared with conduct disorder, several studies found ADHD to be more strongly associated with reading disorder than with mathematics disorder. The co-occurrence of learning disability and ADHD has been suggested to result in poorer outcomes.[103]

Bipolar disorder:

Differentiating ADHD from bipolar disorder in children may be particularly challenging. There is significant overlap in symptoms such as inattention, hyperactivity, impulsivity, mood swings, and irritability.[103] Distinguishing characteristics of bipolar disorder include elevated mood, grandiosity, and a decreased need for sleep. A good family history of bipolar disorder aids in this diagnosis. Distinguishing characteristics of ADHD include younger age at onset, sustained clinical course, and family history. The presence of both ADHD and bipolar disorder signals a very serious prognosis with high risk for hospitalization, suicide, and chronic psychosocial and psychiatric disability.[37]

Substance use disorders:

Differentiating ADHD from the substance use disorders is difficult if first presentation of ADHD symptoms follows the onset of substance abuse or frequent use. A clear evidence of symptoms of ADHD before the substance abuse from the informant or previous record is essential for differential diagnosis.[37]

Intellectual disability (intellectual developmental disorder):

The diagnosis of ADHD in intellectual disability requires that inattention or hyperactivity be excessive for mental age.[105]

Autism spectrum disorder:

Children with both ADHD and Autism spectrum disorder exhibit inattention, social dysfunction, and difficult to manage behaviour. The social dysfunction and peer rejection seen in children with ADHD must be distinguished from the social disengagement, isolation, and indifference to facial and tonal communication cues seen in individuals with autism spectrum disorder.[103] Autism child may have a tantrum because of in ability to tolerate a change from their expected course of events. In contrast, children with ADHD may misbehave or have a tantrum during a major transition because of poor self control or impulsivity.[37]

COURSE AND PROGNOSIS:

ADHD can be identified in preschool-aged children, at which time it may be associated with marked impairment, aggression, and language delay.[83] Although preschool-aged children are referred for clinical assessment, most cases are referred after children start school.

ADHD was thought to be a transient phenomenon. There is a tendency for symptoms, especially restlessness, to diminish when children reach adolescence, although inattentiveness and impulsiveness are more persistent. [84] The disorder persists into adolescence in half or more of the affected persons, and into adulthood in half or more of adolescent cases.[106]

Compared with the non-ADHD peers, previously affected persons are at approximately five times greater risk for substance use (tobacco, alcohol, drugs),[107] antisocial behaviour (arrests, incarceration, aggression, admission to juvenile facilities ,trouble with the law), and other psychiatric disorders such as depression and anxiety.[108]

Educational and Academic problems persist into adolescence; at adulthood, hyperactive children have completed significantly less schooling and hold lower-status jobs than their non-hyperactive peers. Even those who no longer meet the criteria for ADHD in adolescence are at increased risk for substance abuse and antisocial disorders, suggesting the persistence of some residual or latent deficit.[109]

Poor outcome in adolescence and young adulthood is more when the affected child has parents with ADHD or other psychiatric disorders or the child is living in adverse psychosocial circumstances (e.g. poverty, overcrowding, hostility in the parent–child relationship),[110] .

The outcome is also not good when the ADHD symptoms are severe and persistent, and when the child exhibits comorbid conduct, or a language or learning disorder in early development.[111] Problematic social interactions are a major determinant of a poor outcome in adolescence. Nevertheless, the ADHD itself increases the risk of a poor outcome, even when due allowance is made for the associated risk factors.[112]

Secondary effects of Attention-Deficit/Hyperactivity Disorder
Low self-esteem
Compromised social skills
More school failure
More changes in residence
More cigarette, marijuana, and alcohol use
More traffic violations and car accidents
More court appearances and felony convictions
Increased risk of sexually transmitted disease

Source: Spencer et al. 1999; Wilens and Dodson 2004

TREATMENT:

Pharmacological, behavioural, and combined pharmacological and behavioural interventions are the most commonly prescribed treatments for ADHD. The effect of treatment interventions on the long term course of disorder is less clear. Methylphenidate (Ritalin) and, to a lesser extent, dextroamphetamine are the most frequently prescribed treatments for ADHD.[113,114] Tricyclic antidepressants and a_2-noradrenergic agonists, such as clonidine and guanfacine, are second-line drug treatments for children who have an inadequate response to stimulants.[115,116]

PHARMACOLOGICAL:

PSYCHOSTIMULANTS:

All three catecholamine systems-dopaminergic, adrenergic, and noradrenergic are implicated in the pathophysiology of ADHD and its response to pharmacological treatment. Dextroamphetamine and methylphenidate are considered indirect catecholamine agonists. These stimulants facilitate the action of dopamine and noradrenaline agonists by inhibiting their reuptake, facilitating their release into the synaptic cleft, and inhibiting the catabolic activity of monoamine oxidase.[117]

Stimulant therapy results in immediate improvement in the quality of social interactions, a decrease in aggressiveness, and an increase in compliance. Stimulants improve a child's performance, increase accuracy, facilitate error detection and correction, improve the ability to focus on the most relevant

aspects of the information, and decrease impulsive responses [118] .Moreover, stimulants prevent a decrement in performance after a failure, decrease the tendency to stop working on very difficult tasks, increase the effort that the child is willing to expend to obtain a reward, and increase the tolerance of frustration.[119,120] .

Stimulants also improve academic productivity,[121] mathematical computational and word-discovery skills,[122,123] and verbal retrieval,[124] letter-search, and arithmetic skills.[125,126] . Children of preschool-age and those with low intelligence are somewhat less responsive to stimulants than school-aged children[127,128] and they are more prone to develop side-effects.[129,130] Stimulants are effective among adolescents,[131] adults,[136] and children with neurodevelopmental delay,[130] aggression,[132,133] comorbid tics,[134] or seizure disorders while they are seizure-free.[135]. Prolonged treatment with stimulants does not appear to increase the risk of drug use or abuse.[137]

Methylphenidate is a short acting agent, requires multiple daily dosing. Because the medication is rapidly eliminated by the body, rebound periods of exacerbation of symptoms are possible before the next dose. So requires more frequent dosing or the use of long acting methylphenidate[138]. Usually methylphenidate recommended to starts with 5mg two or three times per day, and to increase the dose every 3rd day until therapeutic effects achieved.

Dextroamphitamine is the amphetamine agent most commonly used in treatment of ADHD [139]. This medication has a longer half life and duration of

action than methylphenidate, But multiple daily dosing remains essential. The starting dosage is generally 2.5-5mg twice a day, with gradual increase in dosage. Dosages exceeding 40mg/day are rarely needed. Longer acting sustained release capsule is also available.

Magnesium pemoline appears to be effective in children with symptoms of ADHD[140] and is used for patients whose conditions do not respond to other stimulants.

In general, when treatment with one stimulant result in insufficient benefit, treat with other stimulants should attempted before changing to another class of medication. 90% of children will respond to treatment with either methylphenidate or dextroamphetamine. [141]

NON-STIMULANT MEDICATIONS:

Psychostimulants constitute the first-line treatment for children with ADHD, where as other medications need to be used for non responders or those who experience moderate to severe adverse events.

Atomoxetine:

Atomoxetine is the first non stimulant medication FDA-approved for the treatment of ADHD in children and adolescents. It is used as the first line and in treatment for refractory cases. Atomoxetine is a norepinephrine reuptake inhibitor (NRI). Its mechanism of action is thought to involve selective inhibition of the presynaptic norepinephrine transporter. Atomoxetine (ATX) is

well absorbed orally and is minimally affected by food. Maximum plasma concentrations are reached approximately 1 to 2 hours after ingestion.ATX is metabolized by the cytochrome P450 (CYP) 2D6 hepatic enzyme system, resulting in a half-life of approximately 5 hours. Common adverse events involve abdominal discomfort, nausea, decreases in appetite, slowdown in the rate of weight increases, sedation, daytime sleepiness, dizziness, vertigo, irritability, and mood swings. Sexual side effects have also been reported. Increased suicidal tendencies and liver toxicity are rare complications. Minor increases in blood pressure and pulse have been reported. Thus, weight, height, blood pressure, and pulse should be regularly monitored.

Tricyclic Antidepressants (TCAs):

Tricyclic antidepressants are considered a second-line intervention, after the efficacy of stimulants has been evaluated. TCAs are able to treat core symptoms of ADHD, although they are less effective than psychostimulants in addressing inattention. Tricyclic antidepressants increase plasma noradrenaline levels by blocking the reuptake of noradrenaline, but they have less effect on the dopamine system. Lower doses of TCAs are used in treatment of ADHD versus depression (3 mg/kg per day for ADHD versus 5 mg/kg per day for depression). Common side-effects are dry mouth, dizziness, nausea, constipation, drowsiness, perspiration, and tremors. Several cases of sudden death have been reported in children; although TCAs have not proven to be the cause of these deaths. Cardiovascular adverse events include elevated heart rate and diastolic blood pressure, slowing of cardiac conduction, and prolonged PR

and QRS intervals.[142] Patients should be continuously monitored for cardiac effects. Tricyclic antidepressants should not be discontinued abruptly.

Alpha-agonists:

Alpha-Adrenergic agonists such as clonidine and guanfacine have some evidence to support their use in the treatment of ADHD.[143,145] Alpha -agonists are able to treat the core symptoms of impulsivity and hyperactivity but are typically less effective than psychostimulants in treating inattention.[144] They may be especially helpful in treating patients with ADHD and comorbid tic or Tourette's disorder.[146] Clonidine is very sedating and has been used to treat sleep difficulties of children with ADHD, as well as to offset the delay in sleep onset caused by stimulant medications. It is initiated at low doses, 0.05 mg at bedtime. If daytime sedation becomes a problem, clonidine needs to be discontinued.[143] Guanfacine is slightly less sedating than clonidine and so may be tried if sedation with clonidine is a significant problem. Side effects include drowsiness, hypotension, and bradycardia. Clonidine should be tapered, because sudden discontinuation may cause rebound hypertension and tachycardia.[144]

Bupropion:

Bupropion is a non-TCA antidepressant that has shown efficacy in ADHD but is less effective than TCAs or stimulants.[147] It might be more effective in adolescents than in children. It may worsen tics in children, so it a poor choice for children with ADHD and comorbid tic disorders (Spencer et al.

1993). Starting dose for adolescents is 75 mg twice a day to a maximum of 200 to 300 mg per day. Side effect include fatigue, dry mouth, insomnia, headaches, nausea, vomiting constipation, tremor, and skin rash.[148]

Monoamine oxidase inhibitors:

Monoamine oxidase inhibitors, have also been effective for core ADHD symptoms, are almost never used to treat children and adolescents because of dietary non compliance and potential adverse effects.

Carbamazepine:

A recent meta-analysis of the literature [149] suggests that treatment with carbamazepine improves the ADHD symptoms. But it has little effect on the aggressive symptoms of children with a primary diagnosis of conduct disorder.[150] The most common adverse effects of carbamazepine are sedation, ataxia, tremors, headache, diplopia, incoordination, slurred speech, and dizziness.

Caffeine:

Caffeine appears to reduce effectively some symptoms of ADHD, but its role in the management of clinical cases is unclear in research studies (Arnold et al.1978; Garfinkel et al.1975; Schechter and Timmons 1985) [151]

Antipsychotics:

Antipsychotics appear to be effective in controlling some symptoms of ADHD in children. But its use is restricted to extreme cases of patients whose

severe symptoms and impairment persist even after other interventions. The risk of neurological side effects with long term treatment precludes the use of antipsychotics.

PSYCHOSOCIAL INTERVENTIONS:

This type of treatment includes different modalities, such as behaviour modification, parent training, psychoeducation, academic organization skill teaching and remediation, cognitive–behavioral therapy (CBT), social skills training, and individual therapy. Of these modalities, parent training, intensive behavior modification, and social skills training have shown efficacy for children with ADHD in controlled trials. These interventions can be administered in various settings such as classroom, home, summer camp, and playground by a range of personnel (teachers, parents, and mental health professionals) in individualized or group formats.

Targeting the child as the focus of attention through psychological intervention has some support from scientific studies.[152] Behavioural parent training may be the most commonly prescribed psychosocial intervention for ADHD. Behavioural therapy seems to have higher success rate than do cognitive interventions in the reduction of symptoms of ADHD. Behavioural therapy attempts to deliver consistent targeted behavioural contingencies that reinforce desired positive behaviours and extinguish negative unwanted behaviours. Some therapists recommend the judicious and consistent use of response cost and punishment techniques, including time-out and loss of

positive reinforcements, as necessary to reduce ingrained disruptive behaviours. The problematic behaviour is most likely to occur at home or school. Therefore attempts have been made to educate teachers and parents to use behaviour management with the ADHD child directly in the environment of the classroom and at home.

Parent-training programmes improve the parents' child-management skills,[153,154] enhance their self-confidence, and reduce the child's stress[155] and oppositional behaviour.[154]These programmes use direct instruction, modelling, and role playing to teach parents to reinforce positive behaviour, decrease the use of punitive strategies, and manage oppositional behaviour effectively.[156]It is crucial to evaluate the parents and family for dysfunction related to the child's ADHD. Parental ADHD may interfere with behavioral modification programs, indicating that treatment of the affected parent may be necessary before the child's intervention. Other dysfunctions might be present in the family as well, such as marital problems, substance abuse, or parental depression. Cognitive–behaviour therapy attempts to enhance self-control by teaching children self-instructional strategies. These therapies may yield short-term improvement.[157] Social skills training targets the child's problems with peers and adults, typically in a group setting. These therapies have been effective when administered on their own,[158,159] but there little evidence that social skills training is as potent as medication.

Multimodality Treatment:

Multimodality treatment may have a particular benefit with children who do not normalize with medication or who have comorbid disorders. It would seem logical that combined treatments would improve the treatment plan of the child with ADHD.[152] But in some studies, combination treatment have not improved the outcome for patients beyond that seen with medication alone.[160,161] In summary, psychosocial interventions are an important treatment option, particularly for those families who do not wish to use medication, but these interventions have only modest effects. Moreover, the psychosocial treatments that do not seem to potentiate the effects of medication on the core symptoms of ADHD, such as hyperactivity, but may reduce associated impairments, and improve social skills and self-esteem.

Review of previous studies:

Rae, Thomas et al. (March 2015),[162] done a study on Prevalence of Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-analysis. A meta-analysis of 175 studies worldwide on ADHD prevalence in children found an overall pooled estimate of 7.2%.

Erskine et al. (2013 December),[163] done a study on Epidemiological modelling of attention-deficit/hyperactivity disorder and conduct disorder for the Global Burden of Disease. Global ADHD prevalence for males aged 5-19 is 2.2% and for females 0.7%, based on a review of 44 studies covering 21 world regions.

Polanczyk et al. (2007 June),[164] conducted a study on the worldwide prevalence of ADHD: a systematic review and meta-regression analysis. The worldwide-pooled prevalence of ADHD for persons age 18 and under was 5.29%, based on a review of 102 studies comprising 171,756 subjects from all world regions.

Gomez et al.(Australia),[165] conducted a study on Prevalence of attention deficit hyperactivity disorder in primary school children, with parent/teachers rating scale. 1275 children aged between 5 to 11 years were selected. The prevalence was found to be 2.4%.

Guardiola et al.(Brazil),[166] performed a study on Prevalence of attention deficit hyperactivity disorder in school children. 484 samples aged between 7 to 8.8 years were selected and assessed by interview. The prevalence was found to be 18%.

Rohde et al. .(Brazil),[167] conducted a study on Prevalence of attention deficit hyperactivity disorder in school children. 1022 children with mean age of 13 years were selected and assessed by using rating scale. The prevalence was found to be 5.8%.

Pineda et al. (colombia),[168] in 1999,did a study on Prevalence of attention deficit hyperactivity disorder in school children. 540 children aged between 4 to 17 years were selected and assessed by using rating scale. The prevalence was found to be 16%.

Pineda et al. (colombia),[169] in 2001, did a study on Prevalence of attention deficit hyperactivity disorder in school children. 341 children aged between 4 to 17 years were selected and assessed by using rating scale. The prevalence was found to be 17.1%.

Baumgaertel et al. (Germany),[170] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 1077 children aged between 5 to 12 years were selected and assessed by using rating scale. The prevalence was found to be 17.8%.

Essau et al. (Germany),[171] conducted a study on Prevalence of attention deficit hyperactivity disorder in community. 1009 children aged between 12 to 17 years were selected and assessed by using rating scale and interveiw. The prevalence was found to be 15.8%.

Magnusson et al. (iceland),[172] performed a study on Prevalence of attention deficit hyperactivity disorder in school children. 429 children aged between 6 to 8 years were selected and assessed by using rating scale. The prevalence was found to be 5.7% (teacher) 4.7% (parents).

Kadesjo and Gillberg (Sweden),[173] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 409 children aged between 6.5 to 7.5 years were selected and assessed by using rating scale and interveiw. The prevalence was found to be 3.7%.

Gimpel and khun(US),[174] carried out a study on Prevalence of attention deficit hyperactivity disorder in children attending day care centres. 253

children aged between 2 to 6 years were selected and assessed by using rating scale. The prevalence was found to be 9.5%.

Nolan et al. (US),[175] conducted a study on Prevalence of attention deficit hyperactivity disorder in school children. 3006 children aged between 3 to 18 years were selected and assessed by using rating scale. The prevalence was found to be 15.8%.

Rowland al. (US),[176] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 362 children aged between 8 to 12 years were selected and assessed by using rating scale with teachers and interview with parents. The prevalence was found to be 16%.

Wolraich et al. (US),[177] performed a study on Prevalence of attention deficit hyperactivity disorder in school children. 8258 children aged between 4 to 12 years were selected and assessed by using rating scale. The prevalence was found to be 11.4%.

Wolraich et al. (US),[178] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 4323 children aged between 4 to 12 years were selected and assessed by using rating scale. The prevalence was found to be 16.1%.

Kanbayashi et al. (japan),[179] performed a study on Prevalence of attention deficit hyperactivity disorder in school children. 1022 children aged between 4 to 12 years were selected and assessed by using rating scale. The prevalence was found to be 7.7%.

Wang et al. (Taiwan),[180] carried out a study on Prevalence of attention deficit hyperactivity disorder in school children. 4290 children aged between 7 to 12 years were selected and assessed by using rating scale. The prevalence was found to be 9.9%.

Gallucci et al. (italy),[181] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 232 children aged between 8 to 10 years were selected and assessed by using rating scale. The prevalence was found to be 3.9%.

Taylor et al. (UK),[182] conducted a study on Prevalence of attention deficit hyperactivity disorder in school children. 3215 children aged between 6 to 8 years were selected and assessed by using rating scale. The prevalence was found to be 16.6%.

Shen et al. (china),[183] did a study on Prevalence of attention deficit hyperactivity disorder in school children. 2770 children aged between 7 to 14 years were selected and assessed by using rating scale and interview . The prevalence was found to be 5.8%.

Leung et al. (Hong Kong),[184] performed a study on Prevalence of attention deficit hyperactivity disorder in school children. 3069 children aged between 7 to 8 years were selected and assessed by using rating scale and interview. The prevalence was found to be 6.1%.

M.S. Bhatia et al[34]in 1998, did a study on Attention Deficit Hyperactivity Disorder among Psychiatric Outpatients in India, New Delhi, Of 362 children

(aged 3-12 years) attending the Outpatient Clinic, 64 (17.7%) were found to have ADHD. The sex distribution of all the children attending clinic was 58% boys and 42% girls (1.4: I) whereas the boy: girl ratio of 3:1 among children with ADHD was significantly different from that in the sex distribution of children in the outpatient clinic. The mean age of boys with ADHD was 9.1 years (SD: t 1.15) whereas the mean age of the girls 7.9 years (SD: t 1.35).

Prahbhjot Malhi et al[35] in 1999, done a study on Spectrum of Attention Deficit Hyperactivity Disorders in Children among Referrals to outpatient Psychology Services at Chandigarh, India, Out of the 245 children (after excluding 5 cases) from January 1998 to March 1999, 20 children (8.1%) were found to meet the DSM IV criteria for ADHD. The male : female ratio of all children attending the psychology outpatient services was 2.6 : 1, whereas the M : F ratio in children with ADHD was 5:1. The mean age of the children with ADHD was 6 years and 8 months. Fifty per cent were diagnosed to be primarily hyperactive-impulsive type, 35% were primarily inattentive type and 15% were combined type. Forty per cent of the children with ADHD had a comorbid disorder. Four children with ADHD had a comorbid specific learning disorder, 3 met the clinical criteria for oppositional defiant disorder, and 1 child had a comorbid Tourette disorder. They concluded that ADHD is one of the highly prevalent psychiatric disorders in childhood and is associated with clinically significant impairment in functioning. In order to successfully design an intervention program it is important that all the areas of impairment in children with ADHD be identified.

Venkata JA et al[36]in 2013,done a study on Prevalence of attention deficit hyperactivity disorder in primary school children at Coimbatore, Tamil Nadu, India. Seven hundred seventy children aged between 6 and 11 years were selected from four schools. The presence of ADHD was assessed by using Conner's Abbreviated Rating Scale (CARS) given to parents and teachers. The prevalence of ADHD among primary school children was found to be 11.32%. Prevalence was found to be higher among the males (66.7%) as compared to that of females (33.3%). The prevalence among lower socio-economic group was found to be 16.33% and that among middle socio-economic group was 6.84%. The prevalence was highest in the age group 9 and 10 years. They concluded that there is a high prevalence of ADHD among primary school children with a higher prevalence among the males than the females.

MATERIALS AND METHODS

This study is a descriptive type of study done at Govt. Kilpauk Medical College and Hospital, Department Of Paediatrics. The study protocol was approved by Ethical Committee for research Studies of Govt. Kilpauk Medical College and Hospital.

STUDY DESIGN:

Cross sectional study

STUDY PERIOD:

March 2015- September 2015

STUDY POPULATION:

School children in the Government schools in and around Govt. Royapettah Hospital, Chennai were included in the study. These schools cater to urban lower socioeconomic group of children in Chennai.

SAMPLE SIZE:

1000 School going children aged between 5 and 11 were selected from 15 different schools in Chennai District. Sample size were calculated depending upon the prevalence of ADHD from the previous studies, by using the formula $4pq/L^2$. Prevalance of ADHD from previous studies 10%, Allowable error at 20%, Alpha level at 5%,10% for Non responders.

INCLUSION CRITERIA:

1. Children between the age group of 5 to 11 years.

EXCLUSION CRITERIA:

1. Children with history of seizures/developmental delay.
2. Children with history of neurologic illness/Endocrine disorders.
3. Children with history of chronic illness/prolonged drug intake.

TOOLS USED IN THE STUDY:

(1)Vanderbilt Assessment Scale- Teacher's version:

This is a rating scale based on DSM diagnostic criteria for ADHD. It consists of several behaviour parameters. This scale is rated by teachers. The scale has two components: symptom assessment and impairment in performance. The symptom assessment screens for symptoms that meet criteria for both inattentive (items 1-9) and hyperactive ADHD (items 10-18). To meet the criteria for the diagnosis, one must have at least 6 positive responses to either the inattentive 9 or hyperactive 9 core symptoms, or both. A positive response is a 2 or 3(often or very often). The second section of scale has a set of performance questions (36-43), scored 1-5, with 4 and 5 being somewhat of a problem/problematic. To meet the criteria for ADHD there must be at least one item of the performance set in which the child scores a 4 or 5; that is there must be impairment, not just symptoms to meet diagnostic criteria. The initial scales also have symptom screens for 3 other comorbidities such as oppositional defiant, conduct, and anxiety/depression. Must score a 2 or 3 out

of 10 items on questions 19-28 and score 4 or 5 on any of the performance questions 36-43 to meet screen for oppositional-defiant/conduct disorder. For anxiety/depression screen, must score a 2 or 3 on 3 out of 7 items on questions 29-35 and score a 4 or 5 on any of the performance questions 36-43.

(2)Child Behaviour Checklist (CBCL) Scale:

This scale is used to assess the presence of co-morbid factors, social behaviour and academic performance of those children, who were identified having ADHD.

METHODOLOGY:

After getting the approval from the institutional and Ethical Committee of Government Kilpauk Medical College and Hospital, Chennai the research was initiated. Prior permission was sought from the Educational Officer of Chennai Corporation for conducting the study at corporation schools.

Thousand children aged between 5 and 11 years were randomly selected from 15 different schools in Chennai after obtaining informed written consent from their parents. The school teachers were given awareness regarding ADHD in two sessions. During the first session, the teachers were sensitized about ADHD with the help of audio-visual aid in Tamil and their academic & social implications were explained. During the second session the teachers were trained to fill the Vanderbilt assessment scale Teacher's version with the help of power point presentation. Following the awareness campaign the presence of ADHD was then assessed by using Vanderbilt assessment scale Teacher's version by their respective class teachers. Periodic school visits were

undertaken during this period to clarify their doubts and help the class teachers in assessing the children and filling up the questionnaire.

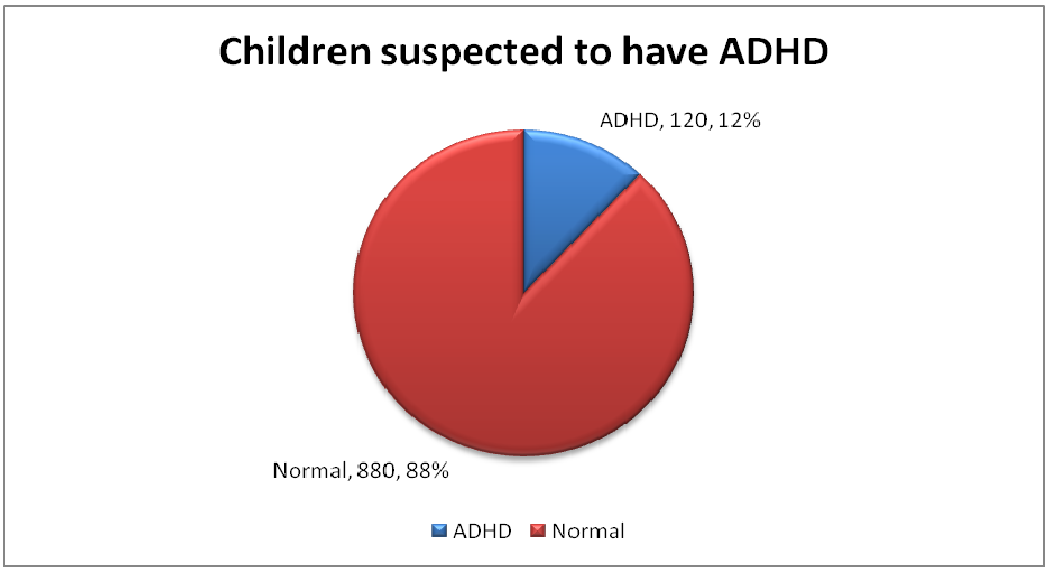
The filled up questionnaire was then analysed and those children screened positive were instructed to attend the hospital with their parents. Children with impaired assessment were verified and reassessed for the presence of any comorbid factors by using Child Behavioural Checklist (CBCL) scale, the information for which was sought from their parents by means of a questionnaire in the outpatient department.

All children screened positive were subjected to psychiatrist evaluation for a final confirmation of diagnosis and further management. Children diagnosed with ADHD are being regularly followed up in our outpatient department with periodic psychiatrist opinion.

RESULTS AND OBSERVATIONS

CHILDREN SUSPECTED TO HAVE ADHD:

(Vanderbilt Assessment Scale-Teacher's Version)

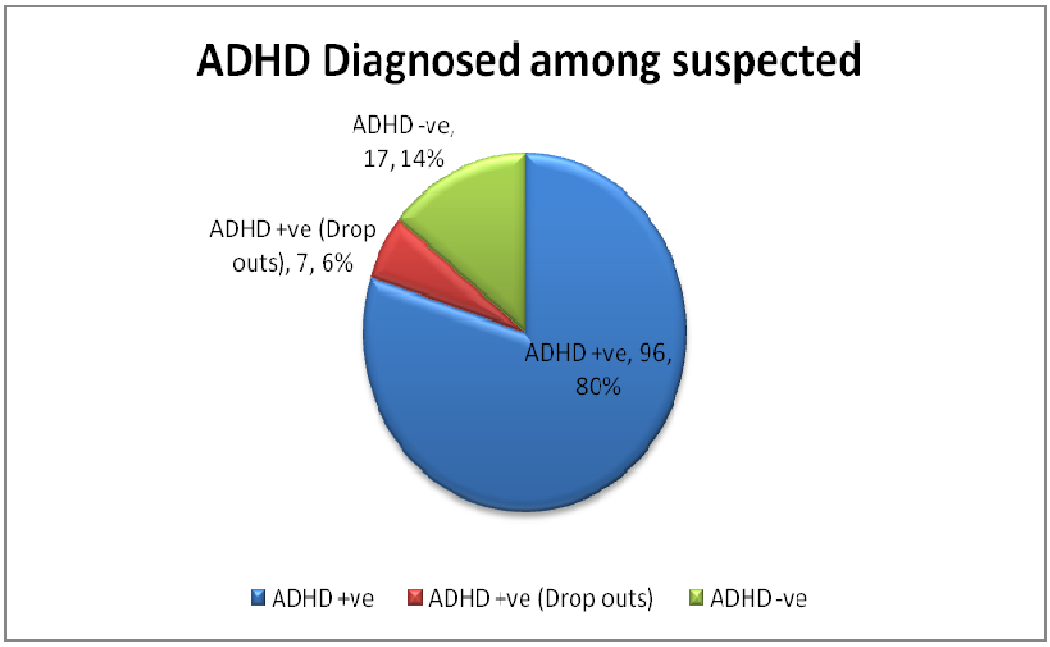


Children suspected to have ADHD	Number	Percentage (%)
ADHD	120	12.00
Normal	880	88.00
Total	1000	100

Among 1000 school children screened by their respective class teachers, 120 children were positive using Vanderbilt Assessment Scale-Teacher's Version.

ADHD DIAGNOSED:

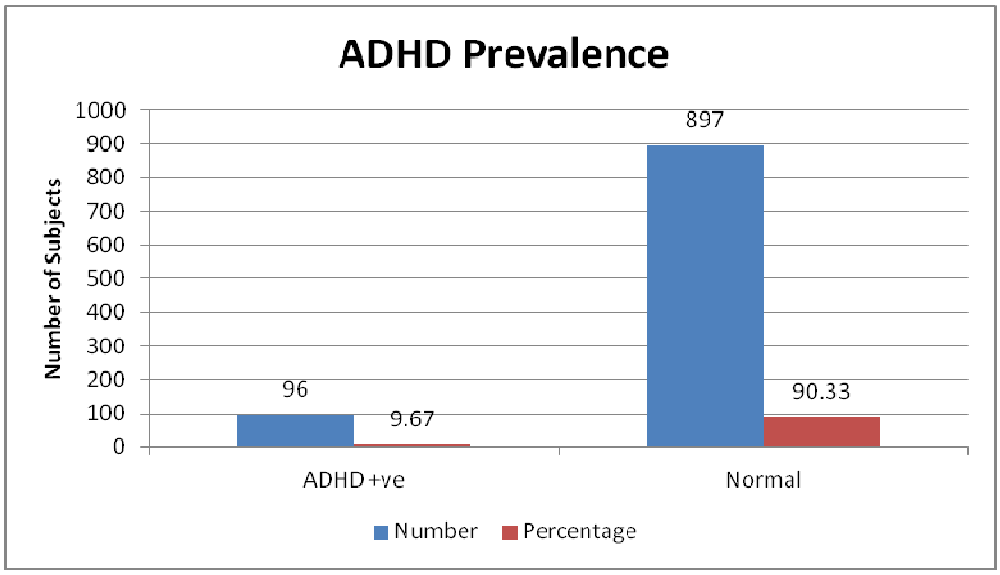
(by psychiatrist)



ADHD Diagnosed among suspected	Number	Percentage (%)
ADHD +ve	96	80.00
ADHD +ve (Drop outs)	7	5.83
ADHD –ve	17	14.17
Total	120	100

Of the 113 (7 children dropped, out of 120) children screened positive, psychiatrist confirmed 96 children as Attention Deficit Hyperactivity Disorder.

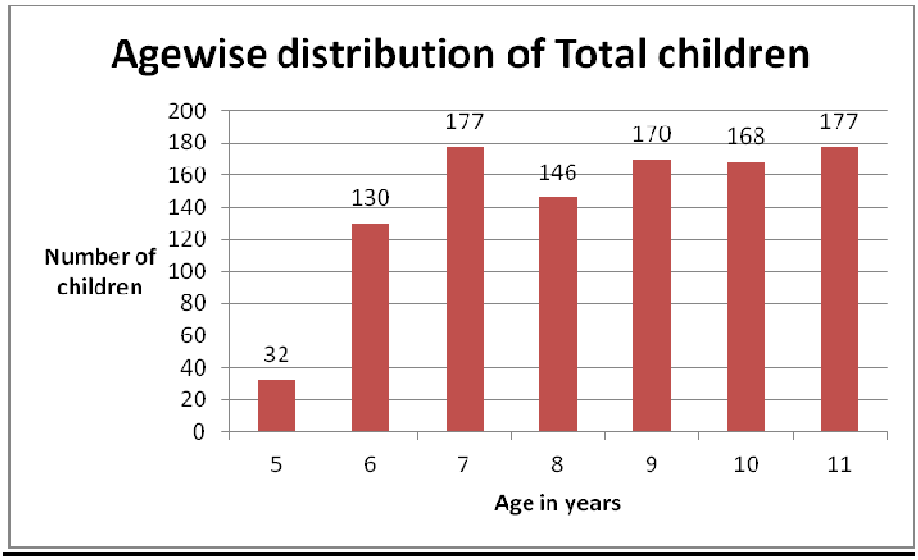
ADHD PREVALENCE:



ADHD Prevalence	Number	Percentage (%)
ADHD +ve	96	9.67
Normal	897	90.33
Total	993	100

The prevalence of ADHD in this study is 9.67% (96 out of 993).

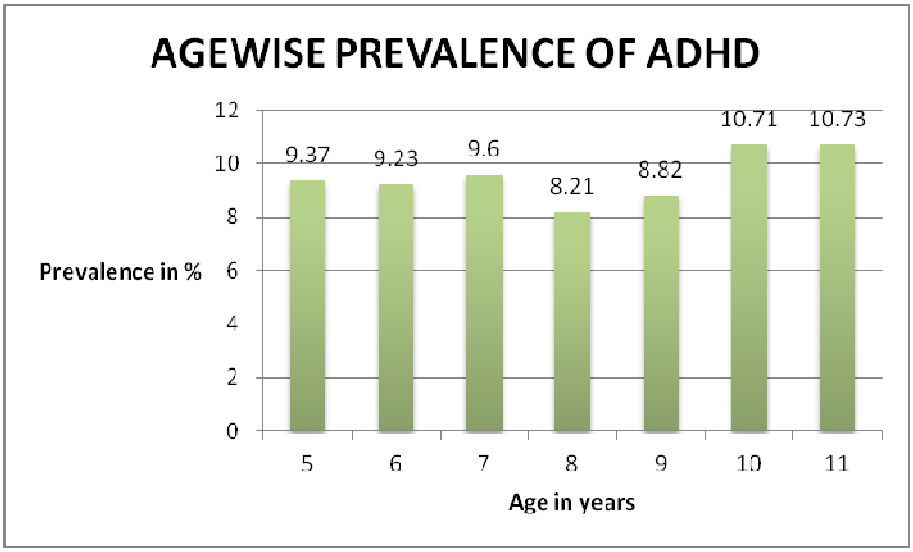
AGE WISE DISTRIBUTION OF TOTAL CHILDREN:



Age in years	Total no: of children
5	32
6	130
7	177
8	146
9	170
10	168
11	177
Total	1000

Among the 1000 children in this study, 345 children were between the age group of 10 to 11 years, 316 children were between the age group of 8 to 9 years and 339 children were less than or equal to 7 years.

AGEWISE PREVALENCE OF ADHD:

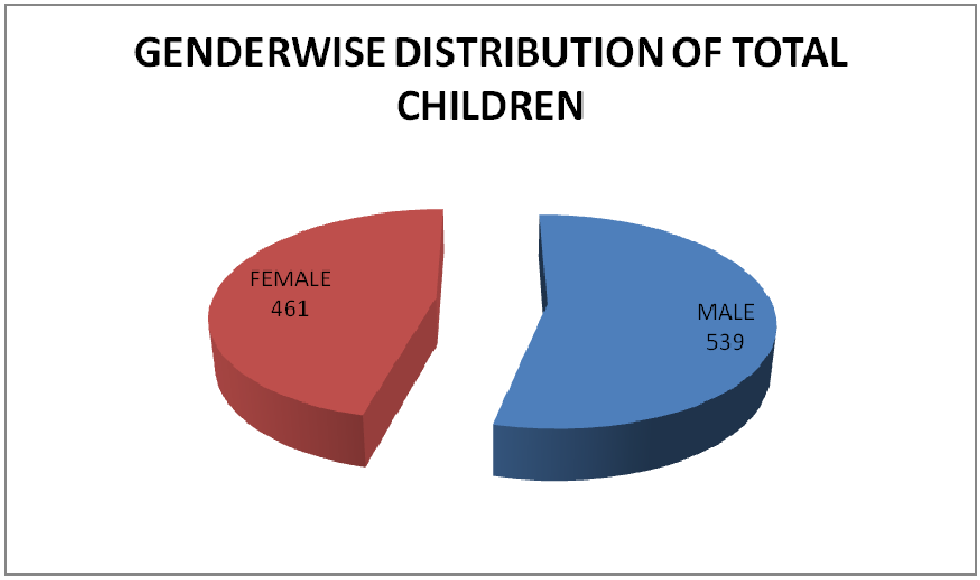


Age in years	Total no: of children with ADHD	Prevalence (%)
5	3	9.37
6	12	9.23
7	17	9.60
8	12	8.21
9	15	8.82
10	18	10.71
11	19	10.73

Age Distribution	ADHD Group	Normal
N	96	897
Mean	8.21	8.50
SD	1.65	1.77
Unpaired t Test		0.1051

Prevalence of ADHD was found to be highest among the children between the age group of 10 and 11 years.

GENDERWISE DISTRIBUTION OF TOTAL CHILDREN:



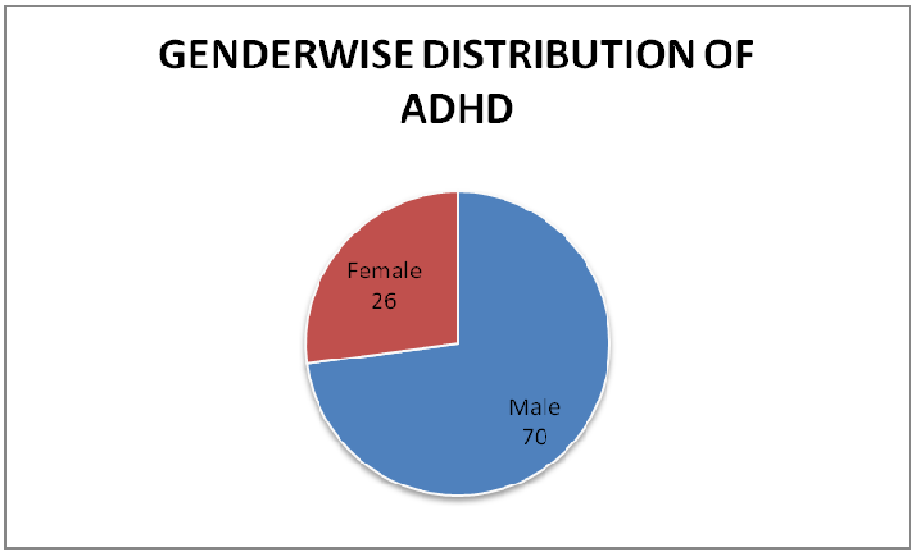
GENDER	NUMBER OF CHILDREN
Male	539
Female	461
Total	1000

Total number of children screened-1000

Number of Male children-539

Number of Female children-461

GENDER DISTRIBUTION OF ADHD:

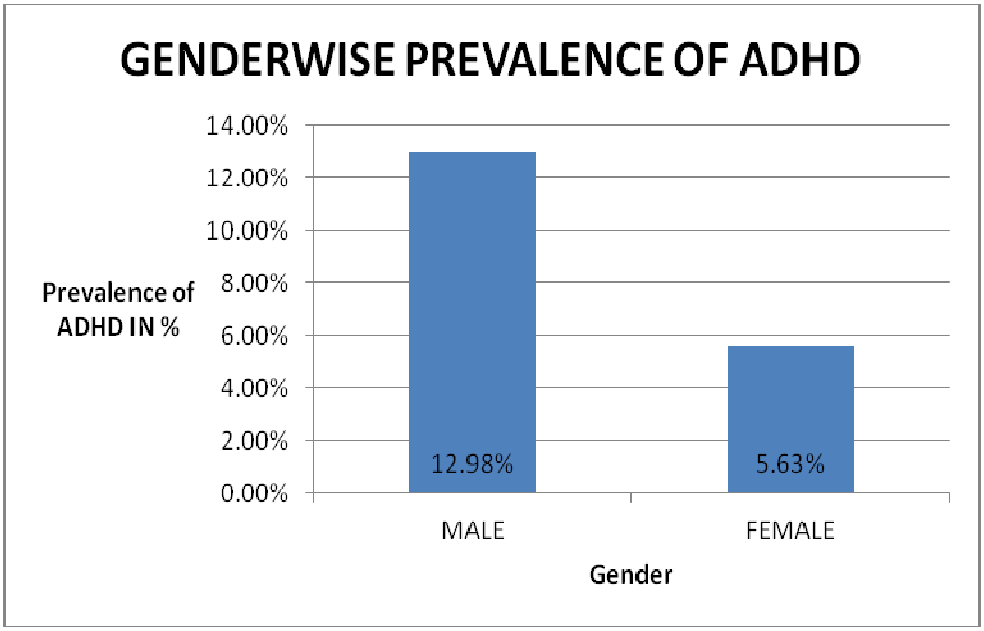


Gender Distribution	ADHD	%
Male	70	72.92
Female	26	27.08
Total	96	100
P value Chi Squared Test		0.0001

Number of male children having ADHD =70(72.92%)

Number of female children having ADHD= 26(27.1%)

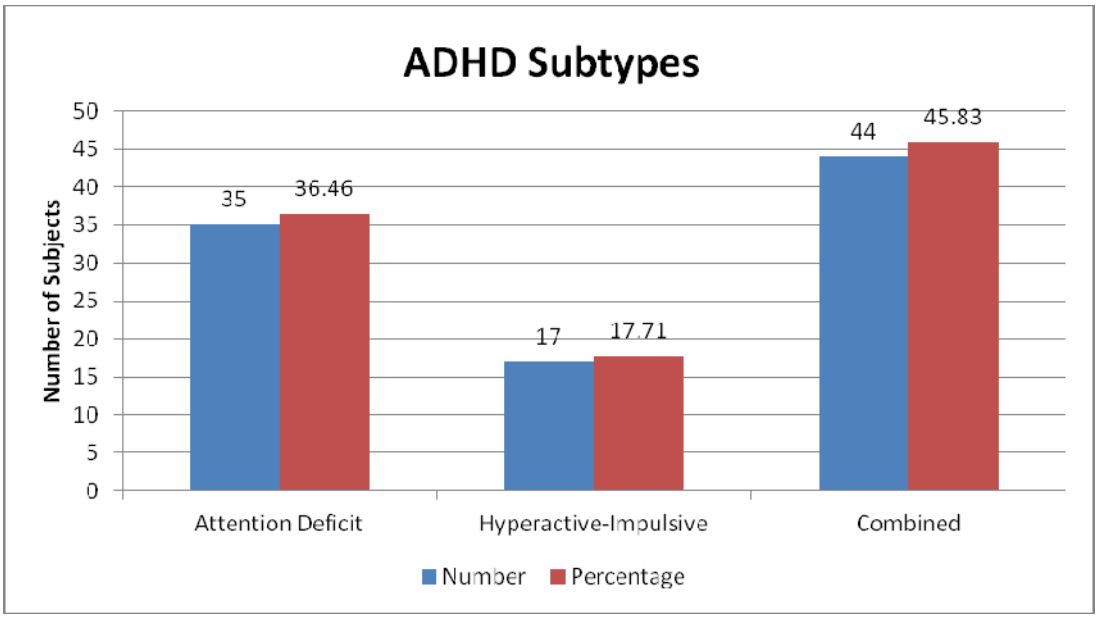
GENDERWISE PREVALENCE OF ADHD:



GENDER	ADHD	TOTAL	PREVALENCE OF ADHD
Male	70	539	12.98%
Female	26	461	5.63%
Total	96	1000	

ADHD is 2.7 times more common in males than females.

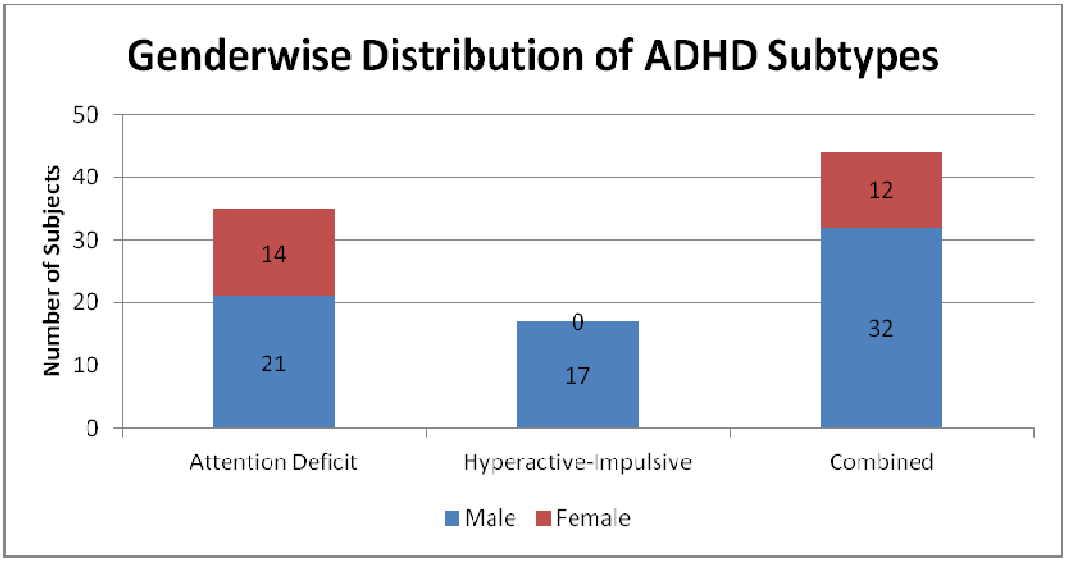
ADHD SUBTYPES:



ADHD Subtypes	Number	Percentage
Attention Deficit	35	36.46
Hyperactive-Impulsive	17	17.71
Combined	44	45.83
Total	96	100

In this study, the most common subtype was the combined subtype (45.83%) followed by the Attention Deficit subtype (36.46%) and Hyperactive-Impulsive type (17.71%)

GENDERWISE DISTRIBUTION OF ADHD SUBTYPES:

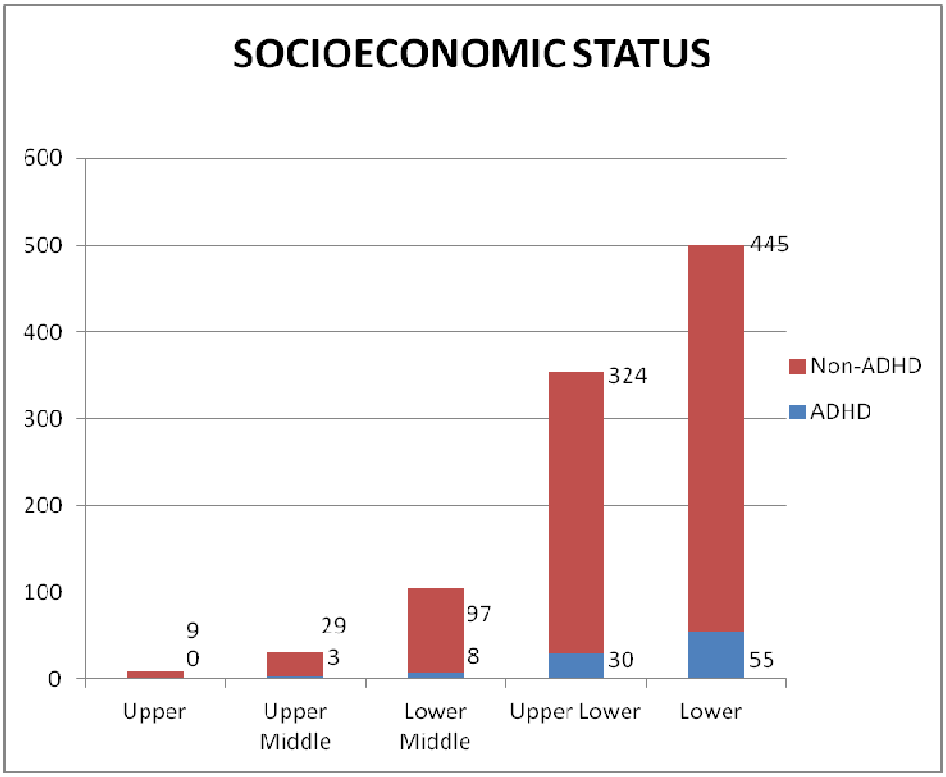


Gender	Attention deficit	Hyperactivity	Combined
Male	21(60%)	17(100%)	32(72.7%)
Female	14(40%)	0(0%)	12(27.3%)
Total	35	17	44

In this study combined subtype of ADHD was the most common among male children. Attention deficit is most common subtype in female children.

Hyperactive-impulsive subtype of ADHD was found exclusively in male children.

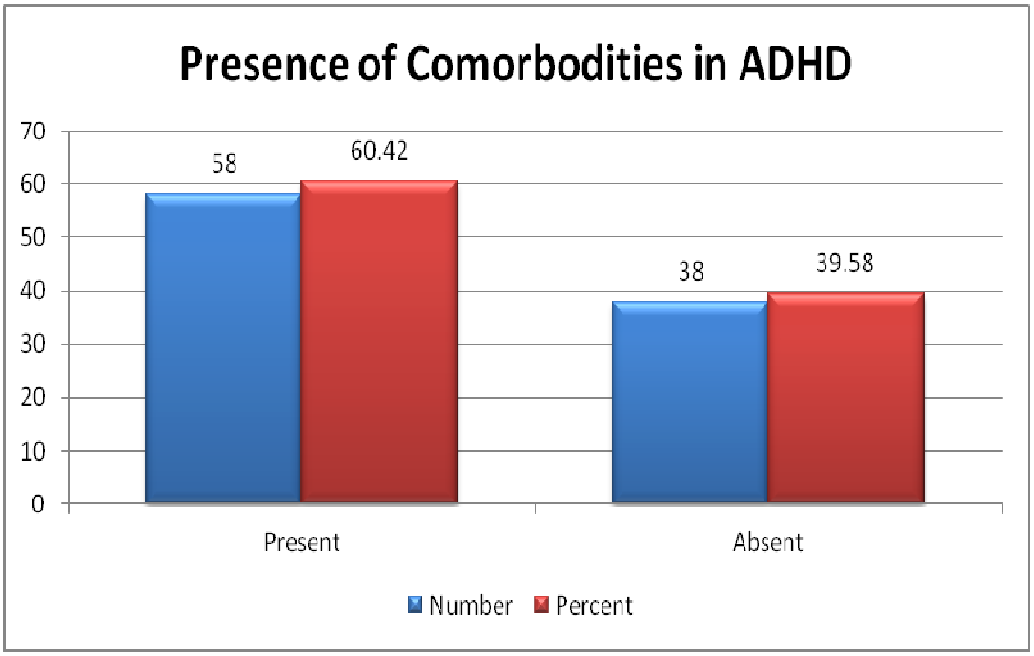
SOCIOECONOMIC STATUS:



Socioeconomic Status	ADHD	Total	%
Upper	0	9	0%
Upper Middle	3	32	9.37%
Lower Middle	8	105	7.62%
Upper Lower	30	354	8.47%
Lower	55	500	11%
Total	96	1000	
P value Chi Squared Test		0.0010	

The prevalence of ADHD is more in children from lower socioeconomic group.

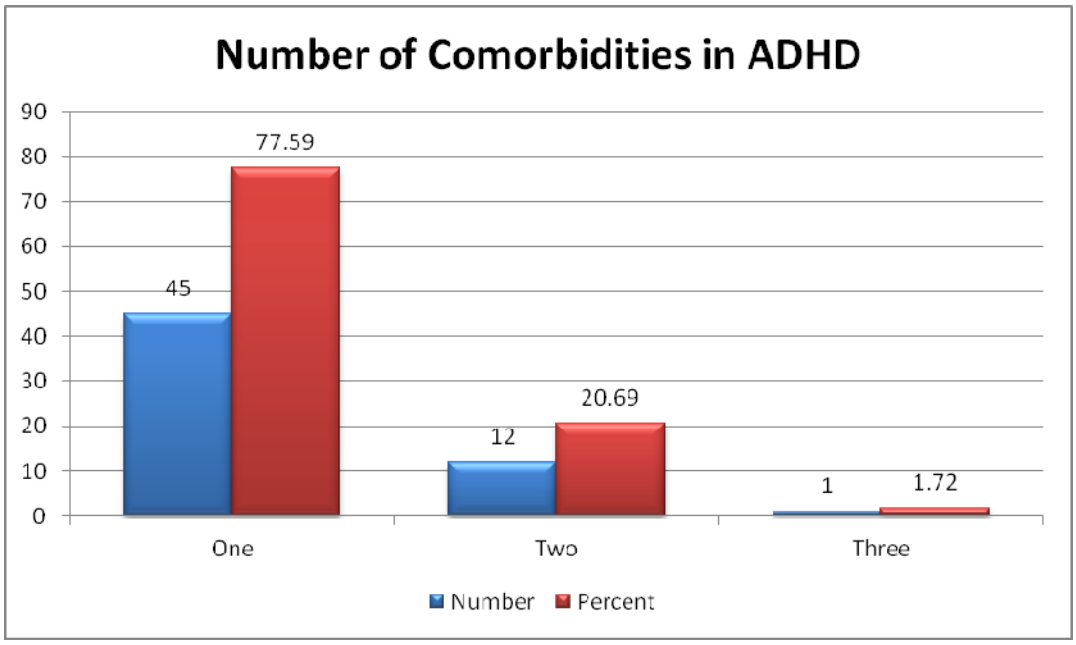
PRESENCE OF COMORBIDITIES IN ADHD:



Presence of Comorbodities in ADHD	Number	Percent (%)
Present	58	60.42
Absent	38	39.58
Total	96	100

60.42% of children with ADHD had comorbid condition like reading difficulty, writing difficulty, behavioural difficulties, and poor social behaviour, poor academic performance, conduct disorder**.**

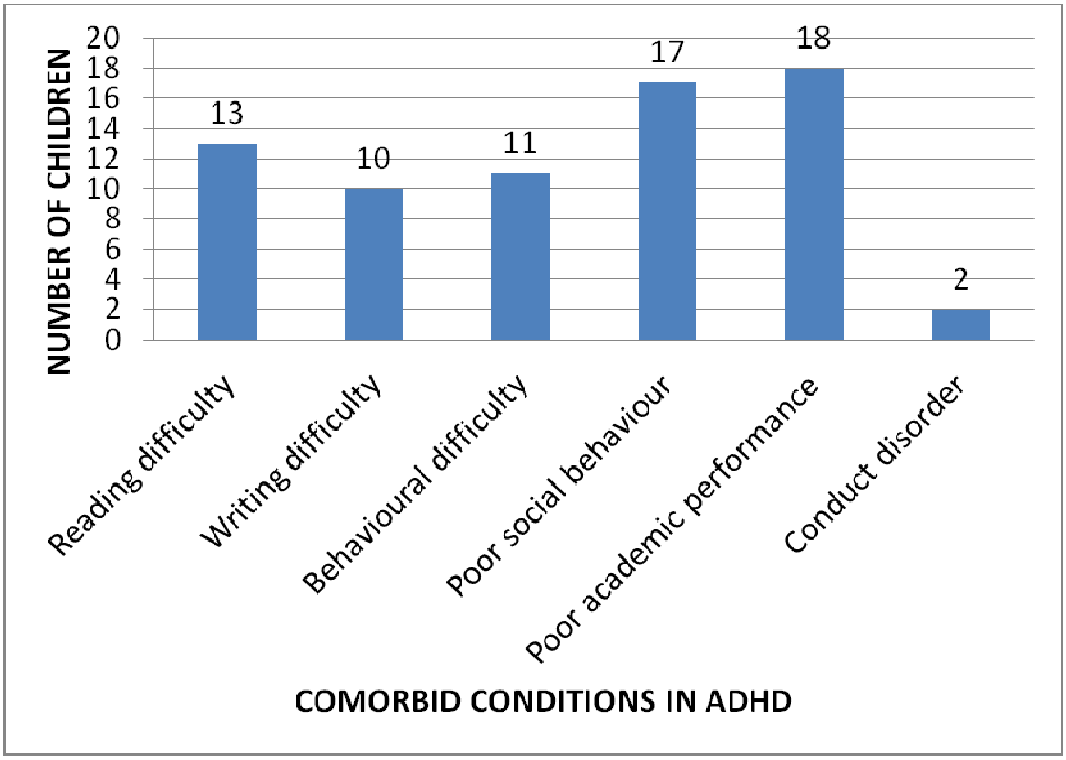
NUMBER OF COMORBIDITIES IN ADHD:



Number of Comorbidities in ADHD	Number	Percent (%)
One	45	77.59
Two	12	20.69
Three	1	1.72
Total	58	100

Most of the children (77.59%) had only one associated comorbid condition and 22.41% had two or more comorbid conditions.

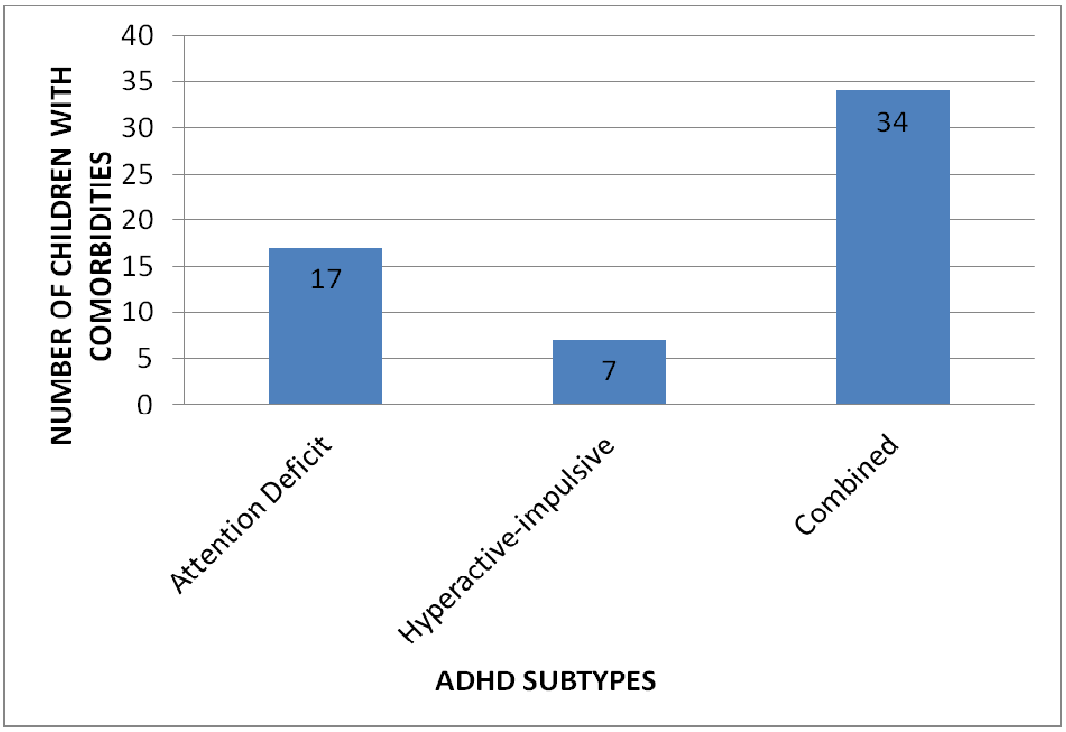
COMORBID CONDITIONS IN ADHD:



Comorbid condition	No: of children	Prevalence (%)
Reading difficulty	13	13.5
Writing difficulty	10	10.4
Behavioural difficulty	11	11.45
Poor social behaviour	17	17.7
Poor academic performance	18	18.75
Conduct disorder	2	2.08

Poor academic performance (18.75%) and poor social behaviour (17.7%) were the most frequently observed comorbid condition.

COMORBIDITIES IN ADHD SUBTYPES:



Subtypes	Total	Comorbidities	(%)
Attention Deficit	35	17	48.57%
Hyperactive-Impulsive	17	7	41.17%
Combined	44	34	77.27%
Total	96	58	

Combined subtypes followed by Attention deficit subtypes of ADHD were frequently associated with comorbid conditions.

DISCUSSION

Of the total 1000 children screened by their class teachers using Vanderbilt Assessment Scale-Teacher's version, 120 children were suspected having ADHD. These children were further verified and reassessed by CBCL scale and finally evaluated by psychiatrist for confirmation.

Out of the 120 children screened positive by class teachers, 7 children dropped out of the study due to various reasons. Of the remaining 113, 96 children were confirmed to be ADHD by psychiatrist.

PREVALENCE OF ADHD:

The prevalence of ADHD in this study was [96 out of 993 (7 drop out)] 9.67%. This is consistent with that of several studies which showed a wide range of prevalence rates between 2% and 17%.[185].

WORLDWIDE PREVALENCE OF ADHD

Various studies	Prevalence of ADHD
Wolraich et al. [177]	11.4
Kanbayashi et al.[179]	7.7%
Wang et al.[180]	9.9%
Gimpel and khun et al.[174]	9.5%

Few studies that are available in India, reported prevalence rates ranging from 8 to 20%.[33,34,35]. Most of these studies were conducted among the children attending the outpatient clinic.

PREVALENCE OF ADHD IN INDIA

Various studies	Prevalence of ADHD
In this study	**9.67%**
PrahbhjotMalhi et al[35]	8.1%
Mukhopadhyay and Misra et al[186]	15.5%
Venkata JA et al[36]	11.33%
M.S. Bhatia et al[34]	17.7%

Venkata JA et al[36] has done a study in 2013 on the Prevalence of Attention Deficit Hyperactivity Disorder in primary school children at Coimbatore. 635 children from four different schools were selected based on the CARS score as per the teachers rating. Prevalence of ADHD among primary school children was found to be 11.33%. In this study, 1000 children from15 different schools were included.

AGE DISTRIBUTION OF ADHD:

Children with ADHD were also stratified on the basis of their age. The prevalence rate in each age group was identified. Prevalence of ADHD was found to be highest among the children between the age group of 10 and 11 years. This is consistent with that of several studies in which the prevalence of ADHD was found to be highest with a mean age between 9 to 11years.[26,168,169,175]

AGE DISTRIBUTION

Various studies	**Age Distribution**
In this study	**10 & 11**
Venkata JA et al[36]	9 & 10
Gadow et al[26]	10.9(mean age)
Nolan et al[175]	10.5(mean age)
Pineda et al[169]	10.5(mean age)
Pineda et al[168]	9.1(mean age)

GENDER DISTRIBUTION:

ADHD is more prevalent among the male children compared to that of the female children. Total no. of male children screened were 539, out of which 70 of them were diagnosed with ADHD. Prevalence of ADHD among the male children was 12.98%. Total no of female children screened were 461, out of which 26 of them were diagnosed to have ADHD.

Prevalence of ADHD among the female children was 5.63%.

Among the 96 children identified as having ADHD, 72.92% (70) were males and 27.08% (26) were females.

Male to Female ratio of ADHD in this study is 2.7:1. This is consistent with that of previous studies which identified a similar gender difference ie; the male predominance, with the ratios ranging from 10:1 in clinically referred sample and 3:1 in a community sample [187].

GENDER DISTRIBUTION

Various studies	Male : Female
In this study	**2.7:1**
M.S. Bhatia et al[34]	3:1
PrahbhjotMalhi et al[35]	5:1
Venkata JA et al[36]	3:1

ADHD SUBTYPES:

In this study,

Attention Deficit- 35 (36.45%)

Hyperactive-Impulsive-17 (17.7%)

Combined- 44 (45.83%)

Which is consistent with previous study done by **Pingali s et al**[188], in which the most common subtype was the combined subtype (71.3%) followed by the inattentive subtype (21.3%) and Hyperactive-impulsive type (7.5%).

Another study done by **Prahbhjot Malhi et al**[35] found that the Attention Deficit-35%, Hyperactive-impulsive type-50%, Combined type-15%

The Hyperactive-impulsive type is predominant in **Prahbhjot Malhi et al**[35] study, but in this study Combined type is predominant. The similarity of both studies is that, the percentage of attention deficit cases were almost the same.

GENDERWISE DISTRIBUTION OF ADHD SUBTYPES:

Combined subtype of ADHD was observed in 32 out of total 70 male children (45.71%) making it the most common subtype in male children.

Attention Deficit type of ADHD accounted for 53.85% (14 out of 26) female children of total ADHD.

As per review of literature[191] Attention deficit type is the most prevalent type in female children and our study also show similar results. All 17 children with hyperactive type of ADHD were males which is similar to others observation of predominance of hyperactive ADHD among males.

ADHD AND SOCIOECONOMIC STATUS:

Out of 854 children screened from upper lower and lower socioeconomic status 85 children had ADHD. The prevalence being 9.96% .

The prevalence among middle and upper socioeconomic class in this study is 7.56%. chi-square test indicated this difference to be highly significant. Which is consistent with previous study done by **Venkata JA et al[36]** reported a high prevalence of ADHD in low socioeconomic status than middle and upper socioeconomic status.

PRESENCE OF COMORBIDITIES IN ADHD:

In this study, among the 96 children who were identified as having ADHD, 58(60.42%) of them had associated co morbid conditions and 38 (39.58%) of them had no associated co morbid illness which is consistent with

previous study done in India by **Palaniappan P et al**[189] in which it is reported that the rate of comorbidities in children with ADHD to be in the range of 40-86.3%.

Another study by **Pingali s et al**[188], found that 52.9% of them had associated co morbid conditions and 47.1% had no associated co morbid illness.

NUMBER OF COMOBIDITIES IN ADHD:

In this study, One Co morbidity: 45(77.59%)

Two Co morbidities: 12(20.69%)

Three Co morbidities: 1 (1.72%)

Which is consistent with previous study done by **Pingali s et al**[188], in which it was found that 37.9% had one co morbidity, 13.2% had two co morbidities and 1.8% had three co morbidities.

COMORBIDITY IN ADHD:

The co morbid conditions associated with ADHD were identified as reading difficulty, writing difficulty, behavioural difficulties, and poor social behaviour, poor academic performance, conduct disorder based on Vanderbilt assessment scale Teacher's version & CBCL. The academic performance was poor among 18(18.75%), poor social behaviour among 17(17.7%), reading difficulty among 13(13.5%), behavioural difficulty among 11(11.45%), writing difficulty among 10(10.4%), conduct disorder among 2 (2.08%) were found in this study.

In the previous study done by **Venkata JA et al**[36] observed 33.33% had poor academic performance. In this study poor academic performance was the most common comorbid condition accounting for 31.03% (18 out of 58 with comorbid conditions).

Reading difficulty and writing difficulty was observed in 13.5% and 10.4% in this study. **Venkata JA et al**[36] also shows similar results of 15.27% of prevalence for reading and writing difficulties.

COMORBIDITIES IN ADHD SUBTYPES:

When co morbidities were studied according to ADHD subtype, combined type (77.27%) was predominantly associated with co morbidities in this study, which is consistent with previous study, done by **Byun H et al**[190] in which the combined-type group was found to have significantly higher ratio of co morbid disorders.

LIMITATIONS IN THE STUDY

(1) Children from Low socio economic status were predominantly studied.

(2) Vanderbilt assessment scale Teacher's version was used for initial assessment.

CONCLUSION AND RECOMMENDATIONS:

From the results of the present study it can be concluded that

(1) The prevalence of ADHD among urban Government primary school children in Chennai, TAMILNADU is 9.67%

(2) Prevalence of ADHD is more among male children compared to Females.

(3) Prevalence is highest in the age group of 10-11years.

(4) Children from lower socioeconomic status are more vulnerable for ADHD.

(5) Combined subtype of ADHD is the most common subtype, followed by Attention Deficit and Hyperactive impulsive subtypes.

(6) Attention deficit type is more common in female children and hyperactive- impulsive type is predominantly seen in males.

(7) Poor academic performance was the most common associated comorbid conditions, followed by poor social behaviour.

RECOMMENTATIONS:

It is a multidisciplinary approach which includes parents, teachers, paediatricians, ophthalmologist and psychologist.

Therefore the following are recommended:

1) School Health Services: Awareness program regarding ADHD to be included in the school health program for screening ADHD and also to sensitise the class teacher to identify children and refer to paediatrician for further evaluation, so to give guidance and counselling to parent and child.

2) To identify the comorbid conditions like reading difficulty, writing difficulty etc and give special education to these children at school & home. So that to improve the academic performance and decrease the incidence of school drop outs.

3) Parents play an important role, so training programs should be developed to increase the parenting skills. These should focus on increasing parent's skills in managing their child's behaviour, facilitating social skills development, and encouraging parent's positive interaction with their child.

BIBILOGRAPHY

1. Nelson Text Book of Paediatrics 19th edition, 29.2 Attention Deficit/Hyperactivity Disorder, page 107-110.

2. Sandberg, S. and Barton, J. (1996). Historical development. In Hyperactivity disorders of childhood (ed. S. Sandberg), pp. 1–25. Cambridge University Press.

3. Schachar, R.J. (1985). The history of the hyperkinetic syndrome. In The hyperkinetic child (ed. E. Taylor), pp. 19–40. Spastics International Medical Publications/Heinemann, London.

4. Still, G.F. (1902). The Coulstonian lectures on some abnormal psychical conditions in children. Lancet, 1, 77–82, 163–8, and 1008–12.

5. Laufer, M.W., Denhoff, E., and Solomons, G. (1957). Hyperkinetic impulse disorder in children's behavior problems. Psychosomatic Medicine, 19, 38–49.

6. American Psychiatric Association (1968). Diagnostic and statistical manual of mental disorders (2nd edn). American Psychiatric Association, Washington, DC.

7. World Health Organization (1978). Mental disorders: glossary and guide to their classification in accordance with the ninth revision of the International classification of diseases. World Health Organization, Geneva.

8. American Psychiatric Association (1980). Diagnostic and statistical manual of mental disorders (3rd edn). American Psychiatric Association, Washington, DC.

9. American Psychiatric Association (1994). Diagnostic and statistical classification of diseases and related health problems (4th edn). American Psychiatric Association, Washington, DC.

10. Bauermeister JJ, Alegria M, Bird HR et al. Are attentional-hyperactivitydeficitsunidimensional or multidimensional syndromes? Empirical findings from a community survey. J Am Acad Child Adolesc Psychiatry 1992;31:423-31.

11. King C, Young RD. Attentional deficits with and without hyperactivity teacher and peer perceptions. J Abnorm Child Psychol1982;10:483-95.

12. Szatmari P, Offord DR, Boyle MH. Ontario Child Health Study:prevalence of attention deficit disorder with hyperactivity. J ChildPsychol Psychiatry 1989;30:219-30.

13. Verhulst FC, Berden GF, Sanders-Woudstra JA. Mental health inDutchchildren (II). The prevalence of psychiatric disorder andrelationship between measures. ActaPsychiatrScand 1985;72(Suppl. 324):1-45.

14. August GJ, Garfinkel BD. Behavioral and cognitive subtypes ofADHD. J Am Acad Child Adolesc Psychiatry 1989;28:739-48.

15. August GJ, Realmuto GM, MacDonald AW III et al. Prevalenceof ADHD and comorbid disorders among elementary school children screened for disruptive behavior. J Abnorm Child Psychol1996;24:571-95.

16. Pelham WE Jr, Gnagy EM, Greenslade KE et al. Teacher ratingsof DSM-III-R symptoms for the disruptive behavior disorders. JAm Acad Child Adolesc Psychiatry 1992;31:210-8.

17. Shaffer D, Fisher P, Dulcan MK et al. The NIMH DiagnosticInterview Schedule for Children Version 2.3 (DISC-2.3): description,acceptability,

prevalence rates, and performance in theMECA Study. Methods for the Epidemiology of Child and AdolescentMental Disorders Study. J Am Acad Child Adolesc Psychiatry1996;35:865-77.

18. Gomez-Beneyto M, Bonet A, Catala MA et al. Prevalence ofmental disorders among children in Valencia, Spain. ActaPsychiatrScand 1994;89:352-7.

19. Breton JJ, Bergeron L, Valla JP et al. Quebec child mental healthsurvey: prevalence of DSM-III-R mental health disorders. J ChildPsychol Psychiatry 1999;40:375-84.

20. Zohar AH, Ratzoni G, Pauls DL et al. An epidemiological study ofobsessive-compulsive disorder and related disorders in Israeli adolescents.J Am Acad Child Adolesc Psychiatry 1992;31:1057-61.

21. Verhulst FC, van der Ende J, Ferdinand RF et al. The prevalenceof DSM-III-R diagnoses in a national sample of Dutch adolescents.Arch Gen Psychiatry 1997;54:329-36.

22. Fergusson DM, Horwood LJ, Lynskey MT. Prevalence andcomorbidity of DSM-III-R diagnoses in a birth cohort of 15 yearolds. J Am Acad Child Adolesc Psychiatry 1993;32:1127-34.

23. Gimpel GA, Kuhn BR. Maternal report of attention deficit hyperactivitydisorder symptoms in preschool children. Child CareHealth Dev 2000;26:163-76.

24. Hudziak JJ, Heath AC, Madden PF et al. Latent class and factoranalysis of DSM-IV ADHD: a twin study of female adolescents. JAm Acad Child Adolesc Psychiatry 1998;37:848-57.

25. Graetz BW, Sawyer MG, Hazell PL et al. Validity of DSM-IVADHD subtypes in a nationally representative sample of Australian children and adolescents. J Am Acad Child Adolesc Psychiatry2001;40:1410-7.

26. Gadow KD, Nolan EE, Litcher L et al. Comparison of attentiondeficit/hyperactivity disorder symptom subtypes in Ukrainianschoolchildren. J Am Acad Child Adolesc Psychiatry 2000;39:1520-7.

27. Essau CA, Groen G, Conradt J et al. Frequency, comorbidity and psychosocial correlates of attention-deficit/hyperactivity disorder. Results of a Bremen adolescent study. Fortschr Neurol Psychiatr 1999; 67:296-305.

28. Stephen V. Faraone, Joseph Sergeant, Christopher Gilberg, Joseph Biederman et al. The worldwide prevalence of ADHD:is it an American condition?World Psychiatry 2:2 - June 2003, 104-113.

29. Kaplan &Sadock's comprehensive textbook of psychiatry, 7th edition, volume two;39;2679-2687.

30. Polanczyk G, Silva de Lima M, Horta BL, Biederman J, Rhode LA: The world-wide prevalence of ADHD: A systematic review and metaregression analysis. Am J Psychiatry. 2007;164:942.

31. www.cdc.gov/adhd;Centres for Disease Control and Prevention (CDC),U.S Department of Health and Human Services; survey report in 2011-2012.

32. Singhi P, Malhi P. Attention deficit hyper-activity disorder in school aged children: Approach and principles of management. Indian Pediatr 1998; 35: 989-999.

33. Bhatia MS, Nigam VR, Bohra N et al. Attention deficit disorderwith hyperactivity among paediatric outpatients. J Child Psychol Psychiatry 1991;32:297-306.

34. Bhatia MS, Choudhary S, Sidana A. Attention deficit hyperactivity disorder among psychiat-ric outpatients. Indian Pediatr 1999; 36: 583-587.

35. Prahbhjot Malhi&Pratibha Singhi et al. Spectrum of Attention Deficit Hyperactivity Disorders in Children Among Referrals to Psychology Services. Indian Pediatrics 2000;37: 1256-1260

36. Venkata JA, Panicker AS. Prevalenceof attention deficit hyperactivity disorder in primary schoolchildren. Indian J Psychiatry 2013;55:338-42.

37. Diagnostic and statistical manual of mental disorders (5th edn). American Psychiatric Association, Washington, DC. 59-65.

38. Barkley, R.A. *Attention Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment.* New York: Guildord Press, 1990.

39. Hallowell, E.M. and J.J. Ratey. *Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder from Childhood through Adulthood*. New York: Simon and Schuster, 1994.

40. Gale Encyclopedia Of Psychology, 2nd edition;Attention deficit/hyperactivity disorder(ADHD);52-55

41. Goodman R, Stevenson J: a twin study of hyperactivity,II: the aetiological role of genes, family relationships and prenatal adversity. J Child Psychol Psychiatry 30:691-709,1989.

42. Biederman, J., Faraone, S.V., Keenan, K., et al. (1992). Further evidence for family-genetic risk factors in attention deficit hyperactivity disorder. Patterns of comorbidity in probands and relatives psychiatrically and pediatrically referred samples. Archives of General Psychiatry, 49, 728–38.

43. Hechtman, L. (1996). Families of children with attention deficit hyperactivity disorder: a review. Canadian Journal of Psychiatry—Revue Canadienne de Psychiatrie, 41, 350–60.

44. Breslau, N., Brown, G.G., DelDotto, J.E., et al. (1996). Psychiatric sequelae of low birth weight at 6 years of age. Journal of Abnormal Child Psychology, 24, 385–400.

45. Chandola CA, Robling MR, Peters TJ, et al. pre and perinatal factors and the risk of subsequent referral for hyperactivity. J Child Psychol Psychiatry 33:1077-1090, 1992.

46. Zametkin, A.J., Liebenauer, L.L., Fitzgerald, G.A., *et al.* (1993). Brain metabolism in teenagers with attention-deficit hyperactivity disorder. *Archives of General Psychiatry*, **50**, 333–40.

47. Casey, B.J., Castellanos, F.X., Giedd, J.N., et al. (1997). Implication of right frontostriatal circuitry in response inhibition and attention-deficit/hyperactivity disorder. Journal of the American Academy of Child and Adolescent Psychiatry, 36, 374–83.

48. Giedd, F.N., Snell, J.W., Lange, N., et al. (1996). Quantitative magnetic resonance imaging of human brain development: ages 4–18. Cerebral Cortex, 6, 551–60.

49. Fletcher, J.M., Landry, S.H., Bohan, T.P., et al. (1997). Effects of intraventricularhemorrhage and hydrocephalus on the long-term neurobehavioral development of preterm very-low-birthweight infants. Developmental Medicine and Child Neurology, 39, 596–606.

50. Gerring, J.P., Brady, K.D., Chen, A., et al. (1998). Premorbid prevalence of ADHD and development of secondary ADHD after closed head injury. Journal of the American Academy of Child and Adolescent Psychiatry, 37, 647–54.

51. Milberger, S., Biederman, J., Faraone, S.V., Chen, L., and Jones, J. (1996). Is maternal smoking during pregnancy a risk factor for attention deficit hyperactivity disorder in children? American Journal of Psychiatry, 153, 1138–42.

52. Streissguth, A.P., Barr, H.M., Sampson, P.D., and Bookstein, F.L. (1994). Prenatal alcohol and offspring development: the first fourteen years. Drug and Alcohol Dependence, 36, 89–99.

53. Minder B, Das-smaal EA, Brand EFJM, et al: exposure to lead and specific attentional problems in school children. Journal of Learning Disabilities 27:393-399, 1994.

54. Szatmari, P., Boyle, M.H., and Offord, D.R. (1993). Familial aggregation of emotional and behavioral problems of childhood in the general population. American Journal of Psychiatry, 150, 1398–403.

55. BarlingJ,Bullen G : dietary factors and hyperactivity: a failure to replicate. J Genet Psychol 146:117-123, 1985

56. Egger J,Stolla A, McEwen LM: Controlled trial of hyposensitisation in children with food induced hyperkinetic syndrome. Lancet 339:1150-1153, 1992.

57. Biederman, J., Faraone, S.V.,Milberger S, et al: Associations between childhood asthma and ADHD: issues of psychiatric comorbidity and familiality. J Am Acad Child Adolesc Psychiatry 33:842-848, 1994.

58. Valentine, J., Rossi, E., O'Leary, P., Parry, T.S., Kurinczuk, J.J., and Sly, P. (1997). Thyroid function in a population of children with attention deficit hyperactivity disorder. *Journal of Paediatrics and Child Health*, **33**, 117–20.

59. Hauser, P., Zametkin, A.J., Martinez, P., *et al.* (1993). Attention deficit-hyperactivity disorder in people with generalized resistance to thyroid hormone. *New England Journal of Medicine*, **328**, 997–1001.

60. Cook, E.H., Jr, Stein, M.A., Krasowski, M.D., et al. (1995). Association of attention-deficit disorder and the dopamine transporter gene. American Journal of Human Genetics, 56, 993–8.

61. Shaw P, Gornick M, Lerch J, Addington A, Seal J: Polymorphisms of the dopamine D4 receptor, clinical outcome, and cortical structure in attention-deficit hyperactivity disorder. Arch Gen Psychiatry. 2007;68(8):921

62. LaHoste, G.J., Swanson, J.M., Wigal, T., et al. (1996). Dopamine D4 receptor gene polymorphism is associated with attention deficit hyperactivity disorder. Molecular Psychiatry, 1, 121–4.

63. Smalley, S.L., Bailey, J.G., Palmer, C.G., et al. (1998). Evidence that the dopamine D4 receptor is a susceptibility gene in attention deficit hyperactivity disorder. Molecular Psychiatry, 3, 427–30

64. Smalley, S.L. (1997). Genetic influences in childhood-onset psychiatric disorders: autism and attention-deficit/hyperactivity disorder. American Journal of Human Genetics, 60, 1276–82.

65. Denckla, M.B. (1996). Research on executive function in a neurodevelopmental context: application of clinical measures. Developmental Neuropsychology, 12, 5–15.

66. Pennington, B.F. and Ozonoff, S. (1996). Executive functions and developmental psychopathology. Journal of Child Psychology and Psychiatry and Allied Disciplines, 37, 51–87.

67. Mesulam, M.M. (1981). A cortical network for directed attention and unilateral neglect. Annals of Neurology, 10, 309–25.

68. Posner, M.I. and Petersen, S.E. (1990). The attention system of the human brain. Annual Review of Neuroscience, 13, 25–42.

69. Clark, C.R., Geffen, G.M., and Geffen, L.B. (1987). Catecholamines and attention. I: Animal and clinical studies. Neuroscience and Biobehavioral Reviews, 11, 341–52

70. Clark, C.R., Geffen, G.M., and Geffen, L.B. (1987). Catecholamines and attention. II: Pharmacological studies in normal humans. Neuroscience and Biobehavioral Reviews, 11, 353–64.

71. Corbetta, M. (1993). Positron emission tomography as a tool to study human vision and attention. Proceedings of the National Academy of Sciences of the United States of America, 90, 10 901–3.

72. Pardo, J.V., Pardo, P.J., Janer, K.W., and Raichle, M.E. (1990). The anterior cingulate cortex mediates processing selection in the Stroopattentional conflict paradigm. Proceedings of the National Academy of Sciences of the United States of America, 87, 256–9.

73. Filipek, P.A., Semrud-Clikeman, M., Steingard, R.J., Renshaw, P.F., Kennedy, D.N., and Biederman, J. (1997). Volumetric MRI analysis comparing subjects having attention-deficit hyperactivity disorder with normal controls. Neurology, 48, 589–601.

74. .Gill, M., Daly, G., Heron, S., Hawi, Z., and Fitzgerald, M. (1997). Confirmation of association between attention deficit hyperactivity disorder and a dopamine transporter polymorphism. Molecular Psychiatry, 2, 311–13.

75. Sullivan A, Kelso J, Stewart M: Mother’s views on the ages of onset for four childhood disorders. Child Psychiatry Hum Dev 20: 269-278, 1990

76. McGee R, Williams S, Feehan M: Attention deficit disorder and age of onset of problem behaviours. J Abnorm Child psycho 20: 487-502, 1992b

77. Green SM, Loeber R, Lahey BB: Stability of mother's recallof the age of onset of their child's attention and hyperactivity problems. J Am Acad Child Adolesc Psychiatry 30: 135-137, 1991

78. McGee R, Partridge F, Williams S, et al: A twelve -year follow up of preschool hyperactive children. J Am Acad Child Adolesc Psychiatry 30: 224-232, 1991

79. Palfrey JS, Levine MD,Walker DK, et al: The emergence of attention deficits in early childhood: a prospective study. J Dev Behav Pediatr 6:339-348, 1985

80. Bird, H.R., Gould, M.S., and Staghezza, B.M. (1993). Patterns of diagnostic comorbidity in a community sample of children aged 9 through 16 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, **32**, 361–8.

81. Porrino, L.J., Rapoport, J.L., Behar, D., Sceery, W., Ismond, D.R., and Bunney, W.E., Jr (1983). A naturalistic assessment of the motor activity of hyperactive boys. I. Comparison with normal controls. *Archives of General Psychiatry*, **40**, 681–7.

82. Keller MB, Lavori PW, Beardslee WR, et al: The disruptive behavioural disorder in children and adolescents: co-morbidity and clinical course. J Am Acad Child Adolesc Psychiatry 31: 204-209, 1992

83. Moffitt, T.E. (1990). Juvenile delinquency and attention deficit disorder: boys' developmental trajectories from age 3 to age 15. *Child Development*, **61**, 893–910.

84. Hart, E.L., Lahey, B.B., Loeber, R., Applegate, B., and Frick, P.J. (1995). Developmental change in attention-deficit hyperactivity disorder in boys: a four-year longitudinal study. *Journal of Abnormal Child Psychology*, **23**, 729–49.

85. Mannuzza, S., Klein, R.G., Bessler, A., Malloy, P., and Hynes, M.E. (1997). Educational and occupational outcome of hyperactive boys grown up. *Journal of the American Academy of Child and Adolescent Psychiatry*, **36**, 1222–7.

86. Barkley, R.A., Fischer, M., Edelbrock, C.S., and Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria. I: An 8-year prospective follow-up study. *Journal of the American Academy Child and Adolescent Psychiatry*, **29**, 546–57.

87. Klein, R.G. and Mannuzza, S. (1991). Long-term outcome of hyperactive children: a review. *Journal of the American Academy of Child and Adolescent Psychiatry*, **30**, 383–7.

88. Abikoff, H., Courtney, M., and Koplewicz, H. (1991). Halo effects and teachers' ratings of children's classroom behavior. *Proceedings of the 38th Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, pp. 1–18. American Academy of Child and Adolescent Psychiatry.

89. Schachar, R., Sandberg, S., and Rutter, M. (1986). Agreement between teachers' ratings and observations of hyperactivity, inattentiveness, and defiance. *Journal of Abnormal Child Psychology*, **14**, 331–45.

90. Carlson C, Lahey BB, Neeper R: Direct assessment of the cognitive correlates of attention deficit disorders with and without hyperactivity. Journal of psychopathology and behavioural assessment 8: 69-86, 1986

91. Cornblatt BA, Risch JJ, Faris G, et al: The Continuous Performance Test, Identical Pairs version (CPT-IP), I: new findings about sustained attention in normal families. Psychiatry Res 26: 223-238, 1988

92. Garfinkel BD, Brown WA, Klee SH, et al: Neuroendocrine and cognitive responses to amphetamine in adolescents with a history of attention deficit disorder. J Am Acad Child Adolesc Psychiatry 25:503-510, 1986

93. DuPaul GJ, Anastopoulos AD, Shelton TL, et al: Multi-method assessment of attention deficit hyperactivity disorder: the diagnostic utility of clinic based tests. Journal of Clinical Child Psychology 21: 394-402, 1992

94. Corkum PV, Seigel LS: Is the Continuous Performance Test a valuable research tool for use with children with attention deficit hyperactivity disorder? J Child Psychol Psychiatry 34: 1217-1239, 1993

95. Douglas VI: Attentional and cognitive problems, in Developmental Neuropsychiatry. Edited by Rutter M. New York, Guilford, 1983, pp 280-329

96. Abikoff H, Gittelman R: Hyperactive children treated with stimulants: is cognitive training a useful adjunct? Arch Gen Psychiatry 42:953-961, 1985a

97. Chess, S. (1960). Diagnosis and treatment of the hyperactive child. *New York State Journal of Medicine*, **60**, 2379–85.

98. Nelson Text Book of Paediatrics 20th edition, 33. Attention Deficit/Hyperactivity Disorder, page 200-204.

99. Biederman J, Munir K, Knee D: Conduct and oppositional disorder in clinically referred children with attention deficit disorder: A controlled family study. J Am Acad Child Adolesc Psychiatry 26:724, 1987

100. Eiraldi, R.B., Power, T.J., and Nezu, C.M. (1997). Patterns of comorbidity associated with subtypes of attention-deficit/hyperactivity disorder among 6- to 12-year-old children. *Journal of the American Academy of Child and Adolescent Psychiatry*, **36**, 503–14.

101. Jensen, P.S., Martin, D., and Cantwell, D.P. (1997). Comorbidity in ADHD: implications for research, practice, and DSM-V. *Journal of the American Academy of Child and Adolescent Psychiatry*, **36**, 1065–79.

102. Biederman J, Newcorn J, Sprich S: Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety and other disorders. Am J Psychiatry 148: 546, 1991.

103. Tannock, R. and Schachar, R. (1996). Executive dysfunction as an underlying mechanism of behavior and language problems in attention deficit hyperactivity disorder. In *Language, learning, and behavior disorders: developmental, biological, and clinical perspectives* (ed. J.H. Beitchman, N. Cohen, M.M. Konstantareas, and R. Tannock), pp. 128–55. Cambridge University Press, New York.

104. Pennington, B.F., Grossier, D., and Welsh, M.C. (1993). Contrasting cognitive deficits in attention deficit hyperactivity disorder versus reading disability. *Developmental Psychology*, **29**, 511–23.

105. Barkley, R.A. (1996). Attention-deficit/hyperactivity disorder. In *Child psychopathology* (ed. E.J. Mash and R.A. Barkley), pp. 63–112. Guilford Press, New York.

106. Mannuzza, S., Klein, R.G., Bessler, A., Malloy, P., and La Padula, M. (1998). Adult psychiatric status of hyperactive boys grown up. *American Journal of Psychiatry*, **155**, 493–8.

107. Levin, F.R. and Kleber, H.D. (1995). Attention-deficit hyperactivity disorder and substance abuse: relationships and implications for treatment. *Harvard Review of Psychiatry*, **2**, 246–58.

108. McArdle, P., O'Brien, G., and Kolvin, I. (1997). Is there a comorbid relationship between hyperactivity and emotional psychopathology? *European Child and Adolescent Psychiatry*, **6**, 142–50.

109. Mannuzza, S., Klein, R.G., Bessler, A., Malloy, P., and LaPadula, M. (1993). Adult outcome of hyperactive boys. Educational achievement, occupational rank, and psychiatric status. *Archives of General Psychiatry*, **50**, 565–76.

110. Taylor, E., Chadwick, O., Heptinstall, E., and Danckaerts, M. (1996). Hyperactivity and conduct problems as risk factors for adolescent development. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 1213–26.

111. Lynskey, M.T. and Fergusson, D.M. (1995). Childhood conduct problems, attention deficit behaviors, and adolescent alcohol, tobacco, and illicit drug use. *Journal of Abnormal Child Psychology*, **23**, 281–302.

112. Farrington, D.P., Loeber, R., and van Kammen, W.B. (1990). Long-term criminal outcomes of hyperactivity–impulsivity–attention deficit and conduct problems in childhood. In *Straight and devious pathways from childhood to adulthood* (ed. L. Robins and M. Rutter), pp. 72–173. Cambridge University Press.

113. Safer, D.J., Zito, J.M., and Fine, E.M. (1996). Increased methylphenidate usage for attention deficit disorder in the 1990s. *Pediatrics*, **98**, 1084–8.

114. Swanson, J.M., Lerner, M., and Williams, L. (1995). More frequent diagnosis of attention deficit–hyperactivity disorder. *New England Journal of Medicine*, **333**, 944.

115. Cantwell, D.P. (1996). Attention deficit disorder: a review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 978–87.

116. Greenhill, L.L., Abikoff, H.B., Arnold, L.E., *et al.* (1996). Medication treatment strategies in the MTA study: relevance to clinicians and researchers. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 1304–13.

117. Solanto, M.V. (1998). Neuropsychopharmacological mechanisms of stimulant drug action in attention-deficit hyperactivity disorder: a review and integration. *Behavioral Brain Research*, **94**, 127–52.

118. Douglas, V.I., Barr, R.G., Desilets, J., and Sherman, E. (1995). Do high doses of stimulants impair flexible thinking in attention-deficit hyperactivity disorder? *Journal of the American Academy of Child and Adolescent Psychiatry*, **34**, 877–85.

119. Milich, R., Licht, B.G., Murphy, D.A., and Pelham, W.E. (1989). Attention-deficit hyperactivity disordered boys' evaluations of and attributions for task performance on medication versus placebo. *Journal of Abnormal Psychology*, **98**, 280–4.

120. Milich, R., Carlson, C.L., Pelham, W.E., Jr, and Licht, B.G. (1991). Effects of methylphenidate on the persistence of ADHD boys following failure experiences. *Journal of Abnormal Child Psychology*, **19**, 519–36.

121. Rapport, M.D., Denney, C., DuPaul, G.J., and Gardner, M.J. (1994). Attention deficit disorder and methylphenidate: normalization rates, clinical effectiveness, and response prediction in 76 children. *Journal of the American Academy of Child and Adolescent Psychiatry*, **33**, 882–93.

122. Douglas, V.I., Barr, R.G., O'Neill, M.E., and Britton, B.G. (1986). Short term effects of methylphenidate on the cognitive, learning and academic performance of children with attention deficit disorder in the laboratory

and the classroom. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, **27**, 191–211.

123. Douglas, V.I., Barr, R.G., Amin, K., O'Neill, M.E., and Britton, B.G. (1988). Dosage effects and individual responsivity to methylphenidate in attention deficit disorder. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, **29**, 453–75.

124. Richardson, E., Kupietz, S.S., Winsberg, B.G., Maitinsky, S., and Mendell, N. (1988). Effects of methylphenidate dosage in hyperactive reading-disabled children. II: Reading achievement. *Journal of the American Academy of Child and Adolescent Psychiatry*, **27**, 78–87.

125. Tannock, R., Ickowicz, A., and Schachar, R. (1995). Differential effects of methylphenidate on working memory in ADHD children with and without comorbid anxiety. *Journal of the American Academy of Child and Adolescent Psychiatry*, **34**, 886–96.

126. Tannock, R., Schachar, R.J., Carr, R.P., and Logan, G.D. (1989). Dose–response effects of methylphenidate on academic performance and overt behavior in hyperactive children. *Pediatrics*, **84**, 648–57.

127. Mayes, S.D., Crites, D.L., Bixler, E.O., Humphrey, F.J., 2nd, and Mattison, R.E. (1994). Methylphenidate and ADHD: influence of age, IQ and neurodevelopmental status. *Developmental Medicine and Child Neurology*, **36**, 1099–107.

128. Musten, L.M., Firestone, P., Pisterman, S., Bennett, S., and Mercer, J. (1997). Effects of methylphenidate on preschool children with ADHD: cognitive and behavioral functions. *Journal of the American Academy of Child and Adolescent Psychiatry*, **36**, 1407–15.

129. Schleifer, M., Weiss, G., Cohen, N., Elman, M., Cvejic, H., and Kruger, E. (1975). Hyperactivity in preschoolers and the effect of methylphenidate. *American Journal of Orthopsychiatry*, **45**, 38–50.

130. Handen, B.L., Feldman, H., Gosling, A., Breaux, A.M., and McAuliffe, S. (1991). Adverse side effects of methylphenidate among mentally retarded children with ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*, **30**, 241–5.

131. Klorman, R., Brumaghim, J.T., Fitzpatrick, P.A., and Borgstedt, A.D. (1990). Clinical effects of a controlled trial of methylphenidate on adolescents with attention deficit disorder *Journal of the American Academy of Child and Adolescent Psychiatry*, **29**, 702–9.

132. Klorman, R., Brumaghim, J.T., Fitzpatrick, P.A., Borgstedt, A.D., and Strauss, J. (1994). Clinical and cognitive effects of methylphenidate on children with attention deficit disorder as a function of aggression/oppositionality and age. *Journal of Abnormal Psychology*, **103**, 206–21.

133. Klein, R.G., Abikoff, H., Klass, E., Ganeles, D., Seese, L.M., and Pollack, S. (1997). Clinical efficacy of methylphenidate in conduct disorder with and without attention deficit hyperactivity disorder. *Archives of General Psychiatry*, **54**, 1073–80.

134. Gadow, K.D., Sverd, J., Sprafkin, J., Nolan, E.E., and Ezor, S.N. (1995). Efficacy of methylphenidate for attention-deficit hyperactivity disorder in children with tic disorder. *Archives of General Psychiatry*, **52**, 444–55. (Erratum appears in *Archives of General Psychiatry*, 1995, **52**, 836.)

135. Gross-Tsur, V., Manor, O., van der Meere, J., Joseph, A., and Shalev, R.S. (1997). Epilepsy and attention deficit hyperactivity disorder: is methylphenidate safe and effective? *Journal of Pediatrics*, **130**, 40–4. (Corrected and republished in *Journal of Pediatrics*, 1997, **130**, 670–4.)

136. Spencer, T., Biederman, J., Wilens, T., Harding, M., O'Donnell, D., and Griffin, S. (1996). Pharmacotherapy of attention-deficit hyperactivity

disorder across the life cycle *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 409–32

137. Hechtman, L. and Weiss, G. (1986). Controlled prospective fifteen year follow-up of hyperactives as adults: non-medical drug and alcohol use and anti-social behaviour. *Canadian Journal of Psychiatry*, **31**, 557–67.

138. Birmaher B,Greenhill LL,Cooper TB, et al: sustained release methylphenidate: pharmacokinetic studies in ADHD males. J Am Acad Child Adolesc Psychiatry 28:768-772, 1989

139. Arnold LE, Huestis RD, Smeltzer DJ, et al: Levoamphetamine vs dextroamphetamine in minimal brain dysfunction: replication, time response, and differential effect by diagnostic group and family rating. Arch Gen Psychiatry 33:292-301, 1976

140. Conners CK, Taylor E: Pemoline, methylphenidate, and placebo in children with minimal brain dysfunction. Arch Gen Psychiatry 37:922-930, 1980

141. Elia J, Borcherding BG, Rapoport JL, et al: Methylphenidate and dextroamphitamine treatments of hyperactivity: are there true nonresponders Psychiatry Res 36:141-155, 1991

142. Wilens TE, Biederman J, Spencer T, et al: A retrospective study of serum levels and electrocardiographic effects of nortriptyline in children and adolescents. J Am Acad Child Adolesc Psychiatry 32:270-277, 1993b

143. Hunt, R.D., Capper, L., and O'Connell, P. (1990). Clonidine in child and adolescent psychiatry. *Journal of Child and Adolescent Psychopharmacology*, **1**, 87–102.

144. Ickowicz, A., Masellis, M., and Tannock, R. (1996). Clonidine in comorbid ADHD and anxiety: behavioral and cognitive effects.

Proceedings of the 43rd Annual Meeting of the American Academy of Child and Adolescent Psychiatry. American Academy of Child and Adolescent Psychiatry.

145. Horrigan, J.P. and Barnhill, L.J. (1995). Guanfacine for treatment of attention-deficit hyperactivity disorder in boys. *Journal of Child and Adolescent Psychopharmacology*, **5**, 215–23.

146. Chappell, P.B., Riddle, M.A., Scahill, L., *et al.* (1995). Guanfacine treatment of comorbid attention-deficit hyperactivity disorder and Tourette's syndrome: preliminary clinical experience. *Journal of the American Academy of Child and Adolescent Psychiatry*, **34**, 1140–6.

147. Conners, C.K., Casat, C.D., Gualtieri, C.T., *et al.* (1996). Bupropion hydrochloride in attention deficit disorder with hyperactivity. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 1314–21.

148. Barrickman, L.L., Perry, P.J., Allen, A.J., *et al.* (1995). Bupropion versus methylphenidate in the treatment of attention-deficit hyperactivity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, **34**, 649–57.

149. Silva, R.R., Munoz, D.M., and Alpert, M. (1996). Carbamazepine use in children and adolescents with features of attention-deficit hyperactivity disorder: a meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 352–8.

150. Cueva, J.E., Overall, J.E., Small, A.M., Armenteros, J.L., Perry, R., and Campbell, M. (1996). Carbamazepine in aggressive children with conduct disorder: a double-blind and placebo-controlled study. *Journal of the American Academy of Child and Adolescent Psychiatry*, **35**, 480–90.

151. Schechter MD, Timmons GD: Objectively measured hyperactivity II: caffeine and amphetamine effects. J clin Pharmacol 25: 276-280, 1985

152. Whalen CK, Henker B: Therapies for hyperactive children: comparisons, combinations, and compromises. J consult clin Psychol 59:126-137, 1991

153. Pisterman, S., McGrath, P., Firestone, P., Goodman, J.T., Webster, I., and Mallory, R. (1989). Outcome of parent-mediated treatment of preschoolers with attention deficit disorder with hyperactivity.*Journal of Consulting and Clinical Psychology*, **57**, 628–35.

154. Pisterman, S., Firestone, P., McGrath, P., *et al.* (1992). The role of parent training in treatment of preschoolers with ADDH.*American Journal of Orthopsychiatry*, **62**, 397–408.

155. Anastopoulos, A.D., Shelton, T.L., DuPaul, G.J., and Guevremont, D.C. (1993). Parent training for attention-deficit hyperactivity disorder: its impact on parent functioning. *Journal of Abnormal Child Psychology*, **21**, 581–96.

156. Cunningham, C.E., Bremner, R., and Boyle, M. (1995). Large group community-based parenting programs for families of preschoolers at risk for disruptive behaviour disorders: utilization, cost effectiveness, and outcome. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, **36**, 1141–59.

157. Carlson, C.L., Pelham, W.E., Jr, Milich, R., and Dixon, J. (1992). Single and combined effects of methylphenidate and behavior therapy on the classroom performance of children with attention-deficit hyperactivity disorder.*Journal of Abnormal Child Psychology*, **20**, 213–32.

158. Frankel, F., Myatt, R., Cantwell, D.P., and Feinberg, D.T. (1997). Parent-assisted transfer of children's social skills training: effects on children with and without attention-deficit hyperactivity disorder.

Journal of the American Academy of Child and Adolescent Psychiatry, **36**, 1056–64.

159. Pfiffner, L.J. and McBurnett, K. (1997). Social skills training with parent generalization: treatment effects for children with attention deficit disorder. *Journal of Consulting and Clinical Psychology*, **65**, 749–57.

160. Horn WF, Ialongo NS, Pascoe JM, et al: additive effect of psychostimulants, parent training, and self –control therapy with ADHD children. J Am Acad Child Adolesc Psychiatry 30:233-240, 1991

161. Ialongo NS, Horn WF, Pascoe JM, et al: The effects of a multimodal intervention with attention-deficit hyperactivity disorder children: a 9-month follow up. J Am Acad Child Adolesc Psychiatry 32:182-189, 1993

162. Rae Thomas, Sharon Sanders, Jenny Doust et al (March 2015): Prevalence of Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-analysis,Pediatrics. Official Journal Of American Academy Of Pediatrics

163. Erskine et al. (December 2013), Epidemiological modelling of attention-deficit /hyperactivity disorder and conduct disorder for the Global Burden of Disease Study 2010, Journal of child psychology and psychiatry,v54 n12,pp. 1263-1274

164. Polanczyk et al. (2007 June), The Worldwide Prevalence of ADHD: a systemic review and metaregression analysis, American Journal of Psychiatry, June 2007, v164 n6, pp. 942-948

165. Gomez R, Harvey J, Quick C et al. DSM-IV AD/HD: confirmatory factor models, prevalence, and gender and age differences based on parent and teacher ratings of Australian primary school children. J Child Psychol Psychiatry 1999;40:265-74.

166. Guardiola A, Fuchs FD, Rotta NT. Prevalence of attention-deficit hyperactivity disorders in students. Comparison between DSM-IV and neuropsychological criteria. Arq Neuropsiquiatr 2000;58:401-7.

167. Rohde LA, Biederman J, Busnello EA et al. ADHD in a school sample of Brazilian adolescents: a study of prevalence, comorbid conditions, and impairments. J Am Acad Child Adolesc Psychiatry 1999;38:716-22.

168. Pineda D, Ardila A, Rosselli M et al. Prevalence of attentiondeficit/hyperactivity disorder symptoms in 4- to 17-year-old children in the general population. J Abnorm Child Psychol 1999;27:455-62

169. Pineda DA, Lopera F, Henao GC et al. Confirmation of the high prevalence of attention deficit disorder in a Colombian community. Rev Neurol 2001;32:217-22.

170. Baumgaertel A, Wolraich ML, Dietrich M. Comparison of diagnostic criteria for attention deficit disorders in a German elementary school sample. J Am Acad Child Adolesc Psychiatry 1995;34:629-38.

171. Essau CA, Groen G, Conradt J et al. Frequency, comorbidity and psychosocial correlates of attention-deficit/hyperactivity disorder.Results of a Bremen adolescent study. Fortschr Neurol Psychiatr 1999;67:296-305.

172. Magnusson P, Smari J, Gretarsdottir H et al. Attention deficit/hyperactivity symptoms in Icelandic schoolchildren: assessment with the Attention Deficit/Hyperactivity Rating Scale-IV. Scand J Psychol 1999;40:301-6.

173. Kadesjo B, Gillberg C. The comorbidity of ADHD in the general population of Swedish school-age children. J Child Psychol Psychiatry 2001;42:487-92.

174. Gimpel GA, Kuhn BR. Maternal report of attention deficit hyperactivity disorder symptoms in preschool children. Child Care Health Dev 2000;26:163-76.

175. Nolan EE, Gadow KD, Sprafkin J. Teacher reports of DSM-IV ADHD, ODD, and CD symptoms in schoolchildren. J Am Acad Child Adolesc Psychiatry 2001;40:241-9.

176. Rowland AS, Umbach DM, Catoe KE et al. Studying the epidemiology of attention-deficit hyperactivity disorder: screening method and pilot results. Can J Psychiatry 2001;46:931-40.

177. Wolraich ML, Hannah JN, Pinnock TY et al. Comparison of diagnostic criteria for attention-deficit hyperactivity disorder in a county-wide sample. J Am Acad Child Adolesc Psychiatry 1996;35:319-24.

178. Wolraich ML, Hannah JN, Baumgaertel A et al. Examination of DSM-IV criteria for attention deficit/hyperactivity disorder in a county-wide sample. J Dev Behav Pediatr 1998;19:162-8 .

179. Kanbayashi Y, Nakata Y, Fujii K et al. ADHD-related behaviour among non-referred children: parents' ratings of DSM-III-R symptoms.Child Psychiatry Hum Dev 1994;25:13-29

180. Wang YC, Chong MY, Chou WJ et al. Prevalence of attention deficit hyperactivity disorder in primary school children in Taiwan. J Formos Med Assoc 1993;92:133-8.

181. Gallucci F, Bird HR, Berardi C et al. Symptoms of attention-deficit hyperactivity disorder in an Italian school sample: findings of a pilot study. J Am Acad Child Adolesc Psychiatry 1993;32:1051-8.

182. Taylor E, Sandberg S, Thorley G et al. The epidemiology of childhood hyperactivity. London: Oxford University Press, 1991.

183. Shen YC, Wang YF, Yang XL. An epidemiological investigation of minimal brain dysfunction in six elementary schools in Beijing. J Child Psychol Psychiatry 1985;26:777-87.

184. Leung PW, Luk SL, Ho TP et al. The diagnosis and prevalence of hyperactivity in Chinese schoolboys. Br J Psychiatry 1996;168: 486-96.

185. Scahill L, Schwab‐Stone M, Merikangas KR, Leckmaz JF, Zhang H, Kasl S. Psychosocial and clinical correlates of ADHD in a community sample of school‐age children. J Am Acad Child Adolesc Psychiatry1999;38:976‐84.

186. Mukhopadhyay M, Misra S, Mitra T, et al. Attention deficit hyperactivity disorder. Indian J Paediatr 2003;70:789-92.

187. Biederman J, Mick E, Faraone SV, Braaten E, Doyle A, Spencer T, *et al*.Influence of gender on attention deficit hyperactivity disorder in children referred to a psychiatric clinic. Am J Psychiatry 2002;159:36‐42.

188. Pingali S. Sunderajan J. A study of comorbidities in attention deficit hyperactivity disorder: a retrospective analysis of case records. AP J Psychol Med 2014; 15(2):206-10.

189. Palaniappan P, Seshadri S, Girimaji S.C, Srinath S. Pattern of comorbidities in Indian children and adolescents with attention deficit hyperactivity disorder.European Psychiatry 2013; 28: 1.

190. Byun H, Yang J, Lee M, Jang W, Yang JW, Kim JH, et al.Psychiatric comorbidity in Korean children and adolescents with attention-deficit hyperactivity disorder: psychopathology according to subtype. Yonsei Med J 2006;47(1):113-21.

191. Linda J. Pfiffner, “All about ADHD” a complete practical guide for class room teachers; 2nd edition;2011.

ANNEXURES

PROFORMA

NAME: AGE: SEX:

DOB: IDENTIFICATION NO:

SCHOOL ADDRESS:

RESIDENTIAL ADDRESS:

SOCIOECONOMIC STATUS:

FATHER: LITERACY WORK INCOME

MOTHER: LITERACY WORK INCOME

ANY H/O DEVELOPMENTAL DELAY, SEIZURES, NEURODEGENERATIVE DISEASES OR ANY OTHER CHRONIC ILLNESS:

HT WT BP

RELAVENT GENERAL & SYSTEM EXAMINATION FINDINGS:

க.து.ந.க.எண்.அ3/20406/2014

சென்னை மாநகராட்சி
கல்வித்துறை
நாள்: 12.11.2014

சென்னை மாநகராட்சி கல்வி அலுவலர் அவர்களின் செயல்முறை ஆணை செ–3.
முன்னிலை:திரு.P.பேரின்பராஜ், பி.எஸ்ஸி., எம்.ஏ., எம்.எட்., எம்.பில்.,

****

பொருள்: சென்னை மாநகராட்சி கல்வித்துறை – இயக்குனர் (மற்றும்) மேற்பார்வையாளர் அரசு மருத்துமனை ராயப்பேட்டை சென்னை–14ன் மூலம் சென்னை பள்ளி மாணவர்களுக்கு மருத்துவ குறிப்புவழங்க அனுமதி வேண்டுவது – தெடர்பாக.

படிக்க: இயக்குனர் (ம) மேற்பார்வை யாளர் அரசு
மருத்துவமனை இராயப்பேட்டை சென்னை.14
அவர்களின் கடிதநாள் :29.10.2014

****

ஆணை:–

சென்னைமாநகராட்சி கல்வித்துறையின் கீழ் இயங்கும் சென்னை தொடக்க,நடுநிலைப் பள்ளிகளில் 2014–15 கல்வியாண்டில் மாணவ/மாணவிகளுக்கு புரிந்துகொள்ளுதல் , உற்றுநோக்கல் , கறுகறுப்பு, ஒழுங்கின்மை பற்றிய மருத்துவ ஆய்வு நடத்துவதற்கும் அப்பயிற்ச்சியில் ஆசிரியர்கள் பங்கு கொண்டு விளக்குவதற்கும் கீழ் வரும் பள்ளிகளுக்கு அனுமதிவழங்கப்படுகிறது.

வ.எண்	பள்ளியின் பெயர்
1.	செ.தொ.பள்ளி, லாயிட்ஸ் ரோடு, ராயப்பேட்டை, சண்முகம் சாலை.
2.	செ.உ.தொ.பள்ளி, லாயிட்ஸ் ரோடு, ராயப்பேட்டை.
3.	செ.உ.தொ.பள்ளி, பீட்டர்ஸ் ரோடு , ராயப்பேட்டை.
4.	செ.தொ.பள்ளி, பெசன்ட் சாலை ராயப்பேட்டை .
5.	செ. உ.தொ.பள்ளி, பெசன்ட் சாலை, ராயப்பேட்டை.
6.	செ.தொ.பள்ளி, 190.T.H.சாலை, சென்னை–5.
7.	செ.தொ.பள்ளி, சைவ முத்தய்யா முதலிதெரு, ராயப்பேட்டை.
8.	செ.தொ.பள்ளி, கொச்சின் House, ஆயிரம் விளக்கு.
9.	செ.ந.நி.பள்ளி, மாடல் பள்ளி சாலை, ஆயிரம் விளக்கு.
10.	செ. உ.ந.நி.பள்ளி. பீட்டர் சாலை. ராயப்பேட்டை.
11.	செ.ந.நி.பள்ளி, பெசன்ட் சாலை, T.P.Koil Sreet.
12.	செ.ந.நி.பள்ளி. பேகம் சாப்ப் தெரு, ராயப்பேட்டை.
13.	செ.ந.நி.பள்ளி.10 பாரதி தெரு, ராயப்பேட்டை.
14.	செ.ந.நி.பள்ளி, அம்மையப்பம் தெரு, ராயப்பேட்டை.
15.	செ.ந.நி.பள்ளி., ராம் நகர் கிருஷ்ணம்பேட்டை .சென்னை–5

எனவே, மேற்குறிப்பிட்டுள்ள பள்ளிகளுக்கு பயிற்சியின் போது பள்ளிக்கும் பள்ளி பணிக்கு எவ்வித இடையூறு ஏற்படாத வண்ணமும், மாணவர்களின் கல்வி நலன் பாதிக்காத வண்ணமும் பார்த்துக்கொள்ளுமாறு அளிக்குமாறு அறிவுறுத்தப்படுகிறது.

12/11/14

12/11/14

கல்வி அலுவலர்

LIST OF ABBREVATIONS USED

ADHD	Attention Deficit Hyperactivity Disorder
DSM	Diagnostic and Statistical Manual
ICD	International Classification of Disease
CDC	Centres for Disease Control
U.S	United States
CARS	Conner's Abbreviated Rating Scale
PET	Positron Emission Tomography
SPECT	Single Photon Emission Computed Tomography
CBCL	Child Behaviour Checklist
CPT	Continuous Performance Test
HD/HDK	Hyperkinetic Disorder
ODD	Oppositional Defiant Disorder
ATX	Atomoxetine
TCA	Tricyclic Antidepressants

Vanderbilt ADHD Diagnostic Teacher Rating Scale

Name: _____ Grade: _____

Date of Birth: _____ Teacher: _____ School: _____

Each rating should be considered in the context of what is appropriate for the age of the children you are rating.

	Frequency Code: 0 = Never; 1 = Occasionally; 2 = Often; 3 = Very Often				
1.	Fails to give attention to details or makes careless mistakes in schoolwork	0	1	2	3
2.	Has difficulty sustaining attention to tasks or activities	0	1	2	3
3.	Does not seem to listen when spoken to directly	0	1	2	3
4.	Does not follow through on instruction and fails to finish schoolwork (not due to oppositional behavior or failure to understand)	0	1	2	3
5.	Has difficulty organizing tasks and activities	0	1	2	3
6.	Avoids, dislikes, or is reluctant to engage in tasks that require sustaining mental effort	0	1	2	3
7.	Loses things necessary for tasks or activities (school assignments, pencils, or books)	0	1	2	3
8.	Is easily distracted by extraneous stimuli	0	1	2	3
9.	Is forgetful in daily activities	0	1	2	3
10.	Fidgets with hands or feet or squirms in seat	0	1	2	3
11.	Leaves seat in classroom or in other situations in which remaining seated is expected	0	1	2	3
12.	Runs about or climbs excessively in situations in which remaining seated is expected	0	1	2	3
13.	Has difficulty playing or engaging in leisure activities quietly	0	1	2	3
14.	Is "on the go" or often acts as if "driven by a motor"	0	1	2	3
15.	Talks excessively	0	1	2	3
16.	Blurts out answers before questions have been completed	0	1	2	3
17.	Has difficulty waiting in line	0	1	2	3
18.	Interrupts or intrudes on others (e.g., butts into conversations or games)	0	1	2	3
19.	Loses temper	0	1	2	3

(continued on next page)

Frequency Code: 0 = Never; 1 = Occasionally; 2 = Often; 3 = Very Often				
20. Actively defies or refuses to comply with adults' requests or rules	0	1	2	3
21. Is angry or resentful	0	1	2	3
22. Is spiteful and vindictive	0	1	2	3
23. Bullies, threatens, or intimidates others	0	1	2	3
24. Initiates physical fights	0	1	2	3
25. Lies to obtain goods for favors or to avoid obligations (i.e., "cons" others)	0	1	2	3
26. Is physically cruel to people	0	1	2	3
27. Has stolen items of nontrivial value	0	1	2	3
28. Deliberately destroys others' property	0	1	2	3
29. Is fearful, anxious, or worried	0	1	2	3
30. Is self-conscious or easily embarrassed	0	1	2	3
31. Is afraid to try new things for fear of making mistakes	0	1	2	3
32. Feels worthless or inferior	0	1	2	3
33. Blames self for problems, feels guilty	0	1	2	3
34. Feels lonely, unwanted, or unloved; complains that "no one loves him/her"	0	1	2	3
35. Is sad, unhappy, or depressed	0	1	2	3

PERFORMANCE

	Problematic		Average	Above Average	
Academic Performance					
1. Reading	1	2	3	4	5
2. Mathematics	1	2	3	4	5
3. Written expression	1	2	3	4	5
Classroom Behavioral Performance					
1. Relationships with peers	1	2	3	4	5
2. Following directions/rules	1	2	3	4	5
3. Disrupting class	1	2	3	4	5
4. Assignment completion	1	2	3	4	5
5. Organizational skills	1	2	3	4	5

Vanderbilt ADHD Diagnostic Teacher Rating Scale

INSTRUCTIONS AND SCORING

Behaviors are counted if they are scored 2 (often) or 3 (very often).

Inattention	Requires six or more counted behaviors from questions 1–9 for indication of the predominantly inattentive subtype.
Hyperactivity/ impulsivity	Requires six or more counted behaviors from questions 10–18 for indication of the predominantly hyperactive/impulsive subtype.
Combined subtype	Requires six or more counted behaviors each on both the inattention and hyperactivity/impulsivity dimensions.
Oppositional defiant and conduct disorders	Requires three or more counted behaviors from questions 19–28.
Anxiety or depression symptoms	Requires three or more counted behaviors from questions 29–35.

The performance section is scored as indicating some impairment if a child scores 1 or 2 on at least one item.

CBCL/6-18 Profile for Boys — Syndrome Scales

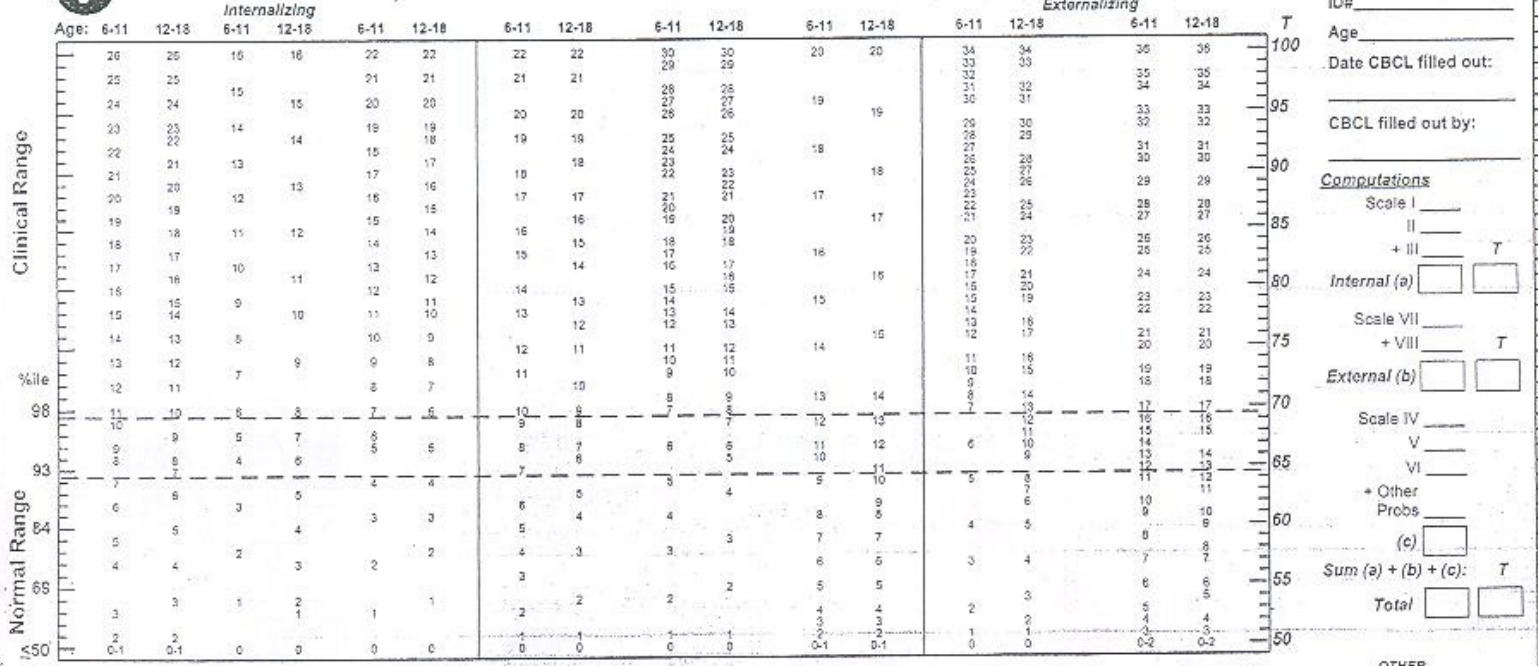
Name_____

ID#_____

Age_____

Date CBCL filled out:

CBCL filled out by:



Computations

Scale I ____
II ____
+ III ____ T
Internal (a)

Scale VII ____
+ VIII ____ T
External (b)

Scale IV ____
V ____
VI ____
+ Other Probs ____
(c)
Sum (a) + (b) + (c): T
Total

I. ANXIOUS/DEPRESSED
- 14. Cries a lot
- 25. Fears
- 30. Fears school
- 31. Fears doing bad
- 32. Must be perfect
- 33. Feels unloved
- 35. Feels worthless
- 45. Nervous
- 50. Fearful
- 52. Feels too guilty
- 71. Self-conscious
- 91. Talks of suicide
- 112. Worries
- Total

II. WITHDRAWN/DEPRESSED
- 5. Enjoys little
- 42. Rather be alone
- 65. Won't talk
- 69. Secretive
- 75. Shy, timid
- 102. Lacks energy
- 103. Sad
- 111. Withdrawn
- Total

III. SOMATIC COMPLAINTS
- 47. Nightmares
- 49. Constipated
- 51. Feels dizzy
- 54. Overtired
- 56a. Aches
- 56b. Headaches
- 56c. Nausea
- 56d. Eye probs.
- 56e. Skin probs.
- 56f. Stomach
- 56g. Vomiting
- Total

IV. SOCIAL PROBLEMS
- 11. Dependent
- 12. Lonely
- 25. Doesn't get along
- 27. Jealous
- 34. Others out to get him
- 36. Accident-prone
- 38. Gets teased
- 48. Not liked
- 62. Clumsy
- 64. Prefers younger kids
- 79. Speech prob.
- Total

V. THOUGHT PROBLEMS
- 9. Can't get mind off thoughts
- 18. Harms self
- 40. Hears things
- 46. Twitching
- 58. Picks skin
- 59. Sex parts public
- 60. Sex parts too much
- 66. Repeats acts
- 70. Sees things
- 76. Sleeps less
- 83. Stores things
- 84. Strange behavior
- 85. Strange ideas
- 92. Sleep talks/walks
- 100. Trouble sleeping
- Total

VI. ATTENTION PROBLEMS
- 1. Acts young
- 4. Fails to finish
- 8. Can't concentrate
- 10. Can't sit still
- 13. Confused
- 17. Daydreams
- 41. Impulsive
- 61. Poor schoolwork
- 78. Inattentive
- 80. Stares
- Total

VII. RULE-BREAKING BEHAVIOR
- 2. Drinks alcohol
- 26. Lacks guilt
- 28. Breaks rules
- 39. Bad friends
- 43. Lies, cheats
- 63. Prefers older kids
- 67. Runs away
- 72. Sets fires
- 73. Sex problems
- 81. Steals at home
- 82. Steals outside home
- 90. Swearing
- 96. Thinks of sex too much
- 99. Uses tobacco
- 101. Truant
- 105. Uses drugs
- 106. Vandalism
- Total

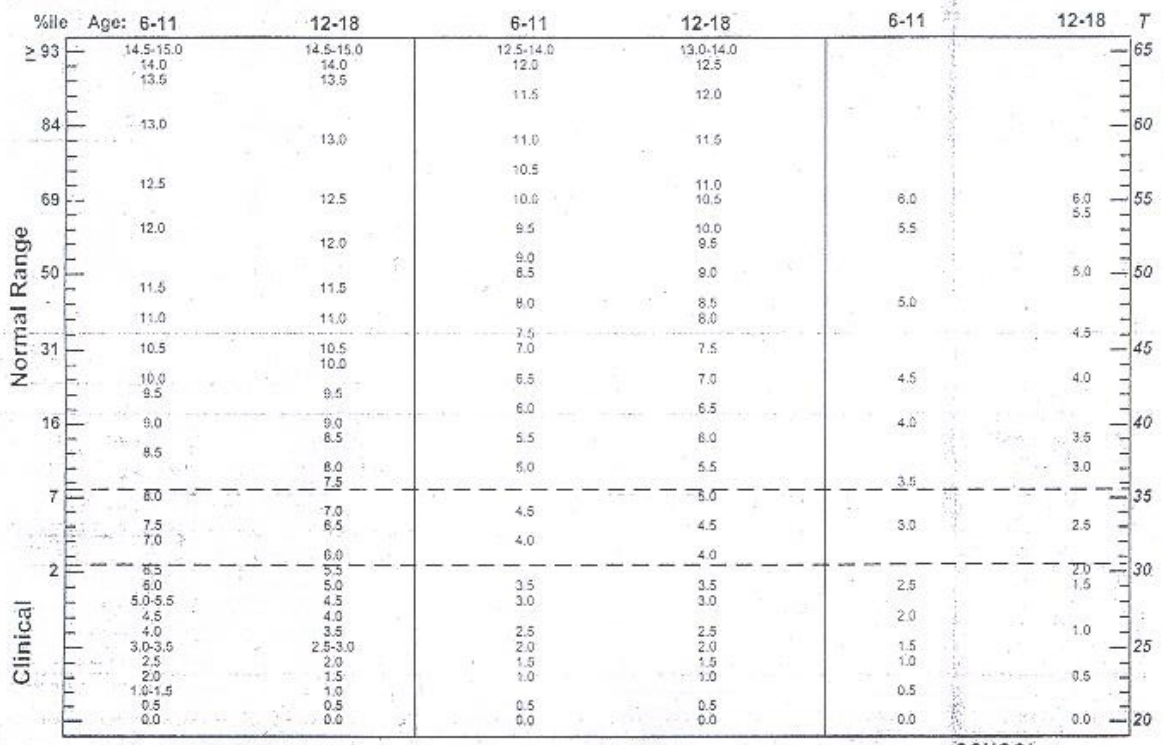
VIII. AGGRESSIVE BEHAVIOR
- 3. Argues a lot
- 16. Mean
- 19. Demands attention
- 20. Destroys own things
- 21. Destroys others' things
- 22. Disobedient at home
- 23. Disobedient at school
- 37. Gets in fights
- 57. Attacks people
- 68. Screams a lot
- 86. Stubborn, sullen
- 87. Mood changes
- 88. Sulks
- 89. Suspicious
- 94. Teases a lot
- 95. Temper
- 97. Threatens others
- 104. Loud
- Total

OTHER PROBLEMS
- 6. BM out of toilet
- 7. Brags
- 15. Cruel to animals
- 24. Doesn't eat well
- 44. Bites nails
- 53. Overeating
- 55. Overweight
- 56h. Other physical problems
- 74. Shows off
- 77. Sleeps more
- 93. Talks too much
- 98. Thumbsucking
- 107. Wets self (day)
- 108. Wets the bed
- 109. Whining
- 110. Wishes to be opposite sex
- 113. Other problems
- Total

Broken lines = borderline clinical range

Internalizing			Externalizing			Total Score		
6-11	12-18	T	6-11	12-18	T	6-11	12-18	T
64	64	100	70	70	100	238-240	237-240	100
63	62-63	99	69	69	99	232-237	230-236	99
62	61	98	68	68	98	226-231	223-229	98
60-61	59-60	97	67	67	97	221-225	217-222	97
59	58	96	66	66	96	215-220	210-216	95
58	57	95	65	65	95	210-214	203-209	95
57	55-56	94	64	64	94	204-209	196-202	94
56	54	93	63	63	93	198-203	189-195	93
54-55	52-53	92	62	62	92	193-197	183-188	92
53	51	91	61	61	91	187-192	176-182	91
52	49-50	90	60	60	90	181-186	169-175	90
51	48	89	59	59	89	175-180	163-168	89
49-50	46-47	88	57-58	57-58	88	169-174	158-162	88
47-48	45	87	55-56	55-56	87	163-168	154-157	87
45	44	86	53-54	54	86	157-162	149-153	86
44-45	42-43	85	51-52	52-53	85	151-156	144-148	85
42-43	41	84	49-50	51	84	145-150	139-143	84
41	40	83	47-48	49-50	83	139-144	135-138	83
39-40	38-39	82	45-46	47-48	82	133-138	130-134	82
37-38	37	81	43-44	46	81	127-132	125-129	81
35-36	36	80	41-42	44-45	80	121-126	121-124	80
34	34-35	79	39-40	42-43	79	114-120	116-120	79
32-33	33	78	37-38	41	78	108-113	111-115	78
30-31	31-32	77	35-36	39-40	77	102-107	105-110	77
29	30	76	33-34	37-38	76	96-101	102-105	76
27-28	29	75	31-32	35	75	90-95	97-101	75
25-26	27-28	74	29-30	34-35	74	84-89	92-96	74
24	26	73	27-28	33	73	78-83	87-91	73
22-23	25	72	25-26	31-32	72	72-77	83-86	72
20-21	23-24	71	23-24	29-30	71	66-71	78-82	71
18-19	20-22	70	22	28	70	61-65	71-77	70
	18-19	69	21	25-27	69	59-60	68-70	69
16-17	17	68	20	23-24	68	57-58	66-67	68
15	16	67	19	22	67	56	64-65	67
14	15	66	18	20-21	66	54-55	61-63	66
12-13	14	65	17		65	50-53	58-60	65
11	13	64	16	19	64	49	52-57	64
9-10	12	63	15	17-18	63	47-48	49-51	63
8	11	62	14	16	62	44-46	47-48	62
7	9-10	61	13	15	61	41-43	44-46	61
6	8	60	12	14	60	39-40	40-43	60
5	7	59	11	13	59	37-38	38-39	59
4	6	58	10	12	58	35-36	35-37	58
3	5	57	9	11	57	34	33-34	57
2	4	56	8	10	56	32-33	30-32	56
1	3	55	7	9	55	30-31	28-29	55
0	2	54	6	8	54	28-29	26-27	54
	1	53	5	7	53	26-27	24-25	53
	0	52	4	6	52	24	22-23	52
		51	3	5	51	21-23	20-21	51
		50	2	4	50	19-20	19	50
		49	1	3	49	17-18	17-18	49
		48	0	2	48	16	16	48
		47		1	47	14-15	14-15	47
		46		0	46	13	13	46
		45			45	11-12	11-12	45
		44			44	10	10	44
		43			43	9	9	43
		42			42	8	8	42
		41			41	7	7	41
		40			40	6	6	40
		39			39	5		39
		38			38		5	38
		37			37	4	4	37
		36			36			36
		35			35	3	3	35
		34			34	2	2	34
		33			33		1	33
		32			32	1		32
		31			31		0	31
		30			30	0		30
		29			29			29
		28			28			28
		27			27			27
		26			26			26
		25			25			25
		24			24			24
		23			23			23
		22			22			22
		21			21			21
		20			20			20

CBCL Profile for Boys — Competence Scales



Name _____

ID# _____

Age _____

Date CBCL filled out _____

CBCL filled out by _____

Total Competence Score

Activities _____

Social _____

School + _____

Total _____

Total *T* from table _____

Broken lines = borderline clinical range

ACTIVITIES

___I. A. # of sports
___ B. Mean of participation and skill in sports
___II. A. # of other activities
___ B. Mean of participation and skill in activities
___IV. A. # of jobs
___ B. Mean job quality
___*Total*

SOCIAL

___III. A. # of organizations
___ B. Mean of participation in organizations
___ V. 1. # of friends
___ 2. Frequency of contacts with friends
___VI. A. Behavior with others
___ B. Behavior alone
___*Total*

SCHOOL

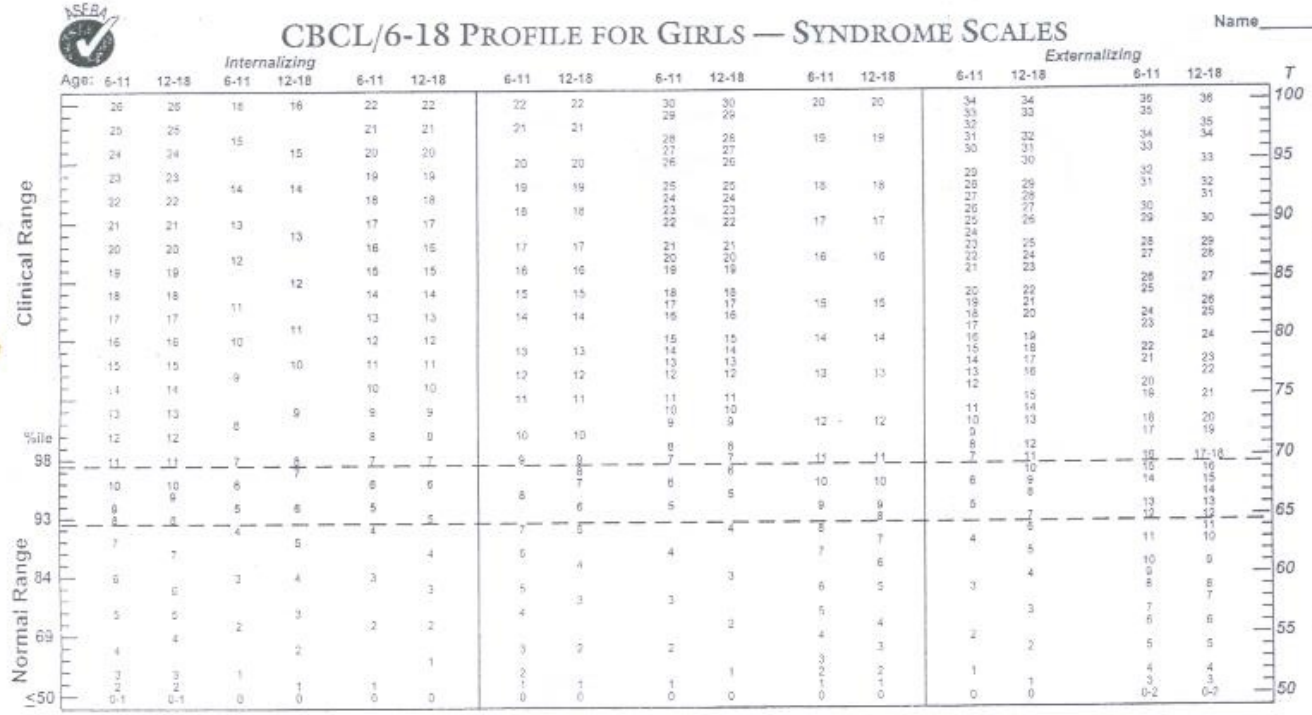
___VII. 1. Mean performance
___ 2. Special class
___ 3. Repeated grade
___ 4. School problems
___*Total*

6-1-01 Edition-202

Total Competence Scores

Age 6-11	*T*	Age 12-18	*T*
34.0-35.0	80	35.0	80
33.5	79	34.5	79
33.0	78	34.0	78
32.5	75	33.5	75
32.0	72	33.0	74
31.5	69	32.5	72
31.0	66	32.0	71
30.5	65	31.5	69
30.0	63	31.0	66
29.5	62	30.5	64
29.0	60	30.0	62
28.5	59	29.5	61
28.0	58	29.0	59
27.5	57	28.5	58
27.0	56	28.0	56
26.5	54	27.5	55
26.0	53	27.0	54
25.5	52	26.5	53
25.0	51	26.0	51
24.5	50	25.5	50
24.0	49	25.0	49
23.5	48	24.5	48
23.0	47	24.0	47
22.5	46	23.5	46
22.0	44	23.0	45
21.5	42	22.5	44
21.0	41	22.0	43
20.5	39	21.5	41
20.0	38	21.0	40
19.5	37	20.5	39
19.0	35	20.0	38
18.5	35	19.5	37
18.0	34	18.5-19.0	35
17.5	32	18.0	33
17.0	31	17.0-17.5	34
16.5	30	16.5	33
16.0	29	16.0	31
15.0-15.5	28	15.5	30
14.0-14.5	27	15.0	29
13.5	26	14.0-14.5	28
12.5-13.0	25	13.5	27
11.5-12.0	24	12.5-13.0	26
11.0	23	11.5-12.0	25
10.0-10.5	22	11.0	24
9.0-9.5	21	10.0-10.5	23
8.0-8.5	20	9.5	22
7.5	19	8.5-9.0	21
6.5-7.0	18	7.5-8.0	20
5.5-6.0	17	7.0	19
5.0	16	6.0-6.5	18
4.0-4.5	15	5.5	17
3.0-3.5	14	4.5-5.0	16
2.5	13	4.0	15
1.5-2.0	12	3.0-3.5	14
0.5-1.0	11	2.0-2.5	13
0.0	10	1.5	12
		0.5-1.0	11
		0.0	10

CBCL/6-18 Profile for Girls — Syndrome Scales



Name_____

ID#_____

Age_____

Date CBCL filled out:

CBCL filled out by:

Computations

Scale I ____
II ____
+ III ____ T

Internal (a) ☐ ☐

Scale VII ____
+ VIII ____ T

External (b) ☐ ☐

Scale IV ____
V ____
VI ____
+ Other Probs ____
(c) ☐

Sum (a) + (b) + (c): T

Total ☐ ☐

I. ANXIOUS/DEPRESSED
- 14. Cries a lot
- 29. Fears
- 30. Fears school
- 31. Fears doing bad
- 32. Must be perfect
- 33. Feels unloved
- 35. Feels worthless
- 45. Nervous
- 50. Fearful
- 52. Feels too guilty
- 71. Self-conscious
- 91. Talks of suicide
- 112. Worries

Total

II. WITHDRAWN/DEPRESSED
- 5. Enjoys little
- 42. Rather be alone
- 65. Won't talk
- 69. Secretive
- 75. Shy, timid
- 102. Lacks energy
- 103. Sad
- 111. Withdrawn

Total

III. SOMATIC COMPLAINTS
- 47. Nightmares
- 49. Constipated
- 51. Feels dizzy
- 54. Overtired
- 56a. Aches
- 56b. Headaches
- 56c. Nausea
- 56d. Eye probs.
- 56e. Skin probs.
- 56f. Stomach
- 56g. Vomiting

Total

IV. SOCIAL PROBLEMS
- 11. Dependent
- 12. Lonely
- 25. Doesn't get along
- 27. Jealous
- 34. Others out to get her
- 36. Accident-prone
- 38. Gets teased
- 46. Not liked
- 62. Clumsy
- 64. Prefers younger kids
- 79. Speech prob.

Total

V. THOUGHT PROBLEMS
- 9. Can't get mind off thoughts
- 18. Harms self
- 40. Hears things
- 46. Twitching
- 58. Picks skin
- 59. Sex parts public
- 60. Sex parts too much
- 66. Repeats acts
- 70. Sees things
- 76. Sleeps less
- 83. Stores things
- 84. Strange behavior
- 85. Strange ideas
- 92. Sleep talks/walks
- 100. Trouble sleeping

Total

VI. ATTENTION PROBLEMS
- 1. Acts young
- 4. Fails to finish
- 8. Can't concentrate
- 10. Can't sit still
- 13. Confused
- 17. Daydreams
- 41. Impulsive
- 61. Poor schoolwork
- 78. Inattentive
- 80. Stares

Total

VII. RULE-BREAKING BEHAVIOR
- 2. Drinks alcohol
- 26. Lacks guilt
- 28. Breaks rules
- 39. Bad friends
- 43. Lies, cheats
- 63. Prefers older kids
- 67. Runs away
- 72. Sets fires
- 73. Sex problems
- 81. Steals at home
- 82. Steals outside home
- 90. Swearing
- 96. Thinks of sex too much
- 99. Uses tobacco
- 101. Truant
- 105. Uses drugs
- 106. Vandalism

Total

VIII. AGGRESSIVE BEHAVIOR
- 3. Argues a lot
- 16. Mean
- 19. Demands attention
- 20. Destroys own things
- 21. Destroys others' things
- 22. Disobedient at home
- 23. Disobedient at school
- 37. Gets in fights
- 57. Attacks people
- 68. Screams a lot
- 86. Stubborn, sullen
- 87. Mood changes
- 88. Sulks
- 89. Suspicious
- 94. Teases a lot
- 95. Temper
- 97. Threatens others
- 104. Loud

Total

OTHER PROBLEMS
- 6. BM out of toilet
- 7. Brags
- 15. Cruel to animals
- 24. Doesn't eat well
- 44. Bites nails
- 53. Overeating
- 55. Overweight
- 56h. Other physical problems
- 74. Shows off
- 77. Sleeps more
- 93. Talks too much
- 98. Thumbsucking
- 107. Wets self (day)
- 108. Wets the bed
- 109. Whining
- 110. Wishes to be opposite sex
- 113. Other problems

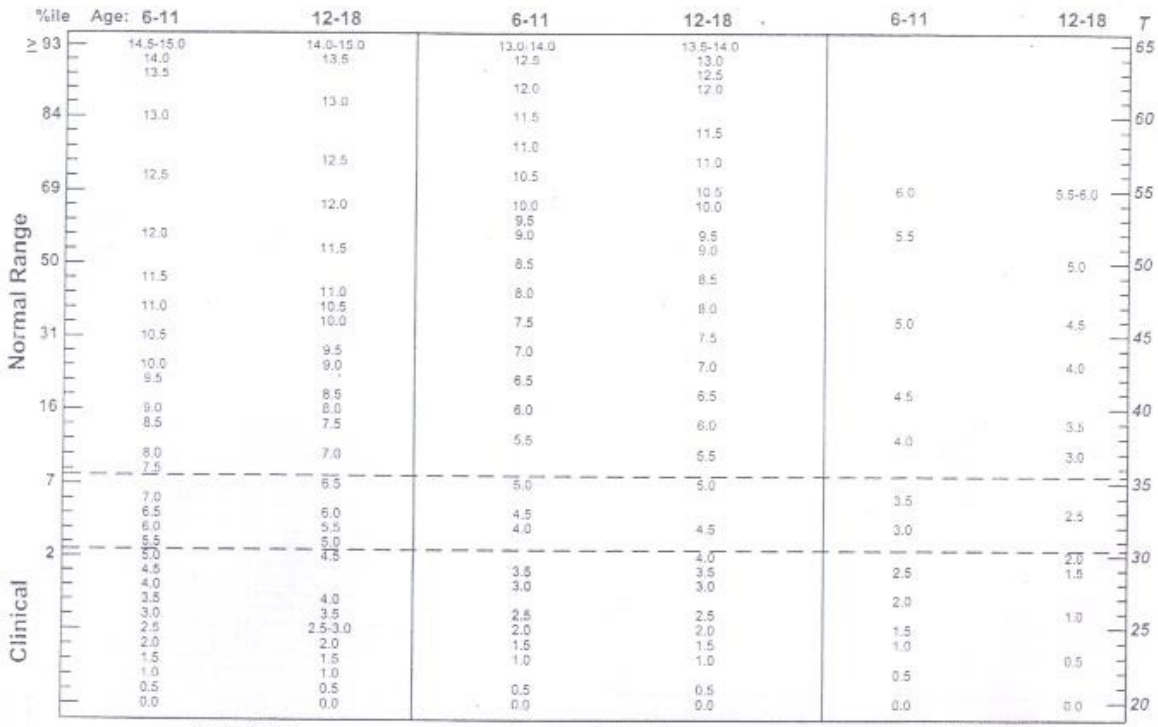
Total

Broken lines = borderline clinical range

Internalizing			Externalizing			Total Score		
6-11	12-18	T	6-11	12-18	T	6-11	12-18	T
64	64	100	70	70	100	238-240	237-240	100
62-63	63	99	69	69	99	232-237	230-236	99
60-61	62	98	67-68	68	98	226-231	224-229	98
58-59	61	97	66	67	97	220-225	217-223	97
56-57	60	96	65	66	96	214-219	210-216	96
54-55	59	95	64	65	95	209-213	203-209	95
52-53	58	94	62-63	64	94	202-208	197-202	94
50-51	57	93	61	63	93	197-202	190-196	93
48-49	56	92	60	62	92	191-196	183-189	92
46-47	55	91	58-59	61	91	185-190	177-182	91
44-45	54	90	57	60	90	179-184	170-176	90
42-43	53	89	56	59	89	174-178	164-169	89
41	51-52	88	54-55	57-58	88	168-173	159-163	88
40	50	87	52-53	55-56	87	162-167	155-158	87
38-39	48-49	86	50-51	54	86	156-161	150-154	86
37	46-47	85	48-49	52-53	85	150-155	145-149	85
36	45	84	46-47	51	84	144-149	141-144	84
35	43-44	83	44-45	49-50	83	139-143	136-140	83
34	42	82	42-43	47-48	82	133-138	134-135	82
33	40-41	81	40-41	46	81	127-132	127-133	81
31-32	38-39	80	39	44-45	80	121-126	122-126	80
30	37	79	37-38	42-43	79	115-120	117-121	79
29	35-36	78	35-36	41	78	109-114	113-116	78
28	34	77	33-34	39-40	77	103-108	108-112	77
27	32-33	76	31-32	37-38	76	98-102	103-107	76
26	31	75	29-30	36	75	92-97	99-102	75
25	29-30	74	27-28	34-35	74	86-91	94-98	74
23-24	27-28	73	25-26	33	73	80-85	89-93	73
22	26	72	23-24	31-32	72	74-79	85-88	72
21	24-25	71	21-22	29-30	71	68-73	80-84	71
20	22-23	70	20	27-28	70	63-67	75-79	70
19	20-21	69		24-26	69	60-62	69-70	69
18	19	68	19	21-23	68	58-59	63-68	68
17	18	67	18	20	67	55-57	58-62	67
16	17	66	17	18-19	66	54	51-57	66
15	16	65	16	17	65	52-53	47-50	65
14	15	64	15	16	64	49-51	45-46	64
13	14	63		15	63	45-48	43-44	63
12	13	62	14	14	62	42-44	40-42	62
11	12	61	13	13	61	41	38-39	61
10	12	60	12	12	60	38-40	36-37	60
10	11	59	11	11	59	35-37	35	59
9	10	58	10	10	58	34	33-34	58
8	9	56	9		57	32-33	30-32	57
	8	55	8	9	56	30-31	29	56
7		54		8	55	29	26-28	55
	7	53	7	7	54	26-28	24-25	54
6	6	52	6		53	24-25	23	53
5	5	50		6	52	23	21-22	52
4	4	48	5	5	51	21-22	19-20	51
3		46	4	4	49	19-20	17-18	50
	3	45	3		47	17-18	16	49
2	2	43		3	46	16	14-15	48
1	1	39	2	2	44	15	13	47
0	0	33	1		41	13-14	12	46
				1	40	12	10-11	45
			0	0	24	11	9	44
						10		43
						9	8	42
						8	7	41
						7	6	40
						6		39
						5	5	38
							4	37
						4		36
						3	3	35
						2	2	34
						1	1	33
						0		32
							0	31

6-1-01 Edition-203

CBCL Profile for Girls — Competence Scales



Name _____

ID# _____

Age _____

Date CBCL filled out _____

CBCL filled out by _____

Total Competence Score

Activities _____

Social _____

School + _____

Total _____

Total *T* from table _____

Broken lines = borderline clinical range

ACTIVITIES

___I. A. # of sports
___ B. Mean of participation and skill in sports
___II. A. # of other activities
___ B. Mean of participation and skill in activities
___IV.A. # of jobs
___ B. Mean job quality
___*Total*

SOCIAL

___III. A. # of organizations
___ B. Mean of participation in organizations
___ V. 1. # of friends
___ 2. Frequency of contacts with friends
___VI. A. Behavior with others
___ B. Behavior alone
___*Total*

SCHOOL

___VII.1. Mean performance
___ 2. Special class
___ 3. Repeated grade
___ 4. School problems
___*Total*

6-1-01 Edition-203

Total Competence Scores

Age 6-11	*T*	Age 12-18	*T*
34.0-35.0	*80*	34.5-35.0	*80*
33.5	*79*	34.0	*79*
33.0	*78*	33.5	*78*
32.5	*77*	33.0	*76*
32.0	*72*	32.5	*72*
31.5	*70*	32.0	*69*
31.0	*67*	31.5	*67*
30.5	*65*	31.0	*65*
30.0	*62*	30.5	*63*
29.5	*61*	30.0	*62*
29.0	*59*	29.5	*60*
28.5	*58*	29.0	*59*
28.0	*57*	28.5	*57*
27.5	*56*	28.0	*56*
27.0	*55*	27.5	*55*
26.5	*53*	27.0	*54*
26.0	*52*	26.5	*53*
25.5	*51*	26.0	*52*
25.0	*50*	25.5	*51*
24.5	*49*	25.0	*50*
24.0	*47*	24.5	*49*
23.5	*46*	24.0	*48*
23.0	*44*	23.5	*47*
22.5	*43*	23.0	*46*
22.0	*42*	22.5	*45*
21.5	*41*	22.0	*44*
21.0	*40*	21.5	*43*
20.5	*39*	21.0	*42*
20.0	*37*	20.5	*41*
19.0-19.5	*36*	20.0	*39*
18.5	*35*	19.5	*38*
17.5-18.0	*34*	19.0	*37*
17.0	*33*	18.5	*36*
16.5	*32*	18.0	*35*
16.0	*31*	17.5	*34*
15.5	*30*	17.0	*33*
15.0	*29*	16.5	*32*
14.0-14.5	*28*	16.0	*31*
13.5	*27*	15.5	*29*
12.5-13.0	*26*	14.5-15.0	*28*
11.5-12.0	*25*	13.5-14.0	*27*
11.0	*24*	13.0	*26*
10.0-10.5	*23*	12.0-12.5	*25*
9.5	*22*	11.5	*24*
8.5-9.0	*21*	10.5-11.0	*23*
7.5-8.0	*20*	9.5-10.0	*22*
7.0	*19*	9.0	*21*
6.0-6.5	*18*	8.0-8.5	*20*
5.5	*17*	7.0-7.5	*19*
4.5-5.0	*16*	6.5	*18*
4.0	*15*	5.5-6.0	*17*
3.0-3.5	*14*	4.5-5.0	*16*
2.0-2.5	*13*	4.0	*15*
1.5	*12*	3.0-3.5	*14*
0.5-1.0	*11*	2.5	*13*
0.0	*10*	1.5-2.0	*12*
		0.5-1.0	*11*
		0.0	*10*

S.NO	AGE ,1=LESS THAN OR EQUAL TO 7,2=8 TO 9,3=10 TO 11	SEX , 1= MALE, 2= FEMALE	AD Q1	AD Q2	AD Q3	AD Q4	AD Q5	AD Q6	AD Q7	AD Q8	AD Q9	TOTAL	AD DEFICIENCY, 1= PRESENT,0=	HAQ1	HAQ2	HAQ3	HAQ4	HAQ5	HAQ6	HAQ7	HAQ8	HAQ9	TOTAL	HA-IMPULSIVITY, 2= PRESENT,0= COMBINED , 3=	PRESENT,0= RD , 1=	PRESENT ,0= WD, 1=	PRESENT,0= BD, 1=	PRESENT,0= PSB , 1=	PRESENT , 0= PAP,	1=PRESENT, 0= CONDUCT,	1=PRESENT , 0= Broken family	1= positive, 0= living away from parents	1=present,0=abs
1	2	2	3	3	3	3	2	1	3	2	2	22	1	2	3	3	2	2	3	2	1	1	19	2	3	1	0	0	1	0	0	0	1
2	3	2	2	3	2	3	2	2	3	3	2	22	1	1	1	0	2	2	1	2	2	2	14	0	0	0	0	0	0	0	1	0	1
3	3	2	3	2	3	3	3	3	3	2	2	24	1	2	2	1	2	2	2	0	2	0	13	2	3	0	0	0	0	0	1	1	1
4	3	2	2	2	3	2	2	3	2	3	2	21	1	1	3	2	2	0	2	0	2	2	14	2	3	1	0	0	1	0	0	1	1
5	2	2	3	2	2	3	3	3	3	3	3	25	1	3	1	2	3	3	2	3	2	2	21	2	3	0	0	0	0	1	0	0	1
6	2	2	3	3	3	3	3	3	2	3	3	26	1	3	3	2	2	2	2	0	2	0	16	2	3	0	1	0	0		0	0	1
7	3	2	2	2	1	2	1	2	1	2	2	15	1	2	1	0	2	2	2	2	2	2	15	2	3	0	0	0	0	1	0	1	1
8	3	1	1	2	2	2	2	1	1	2	1	14	0	3	2	3	2	3	3	3	2	3	24	2	0	0	0	0	1	0	0	0	1
9	3	2	2	2	2	3	3	3	1	2	1	19	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	1	0	0	0
10	1	2	2	2	3	2	3	3	0	2	2	19	1	1	1	1	2	2	2	2	2	2	15	2	3	0	0	0	0	1	0	0	0
11	1	1	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	2	3	0	23	2	3	0	0	1	0	0	0	0	0
12	1	2	3	3	3	3	3	3	1	3	2	24	1	1	1	1	1	1	1	1	1	1	9	0	0	1	0	0	0	0	0	0	0
13	1	1	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	2	3	3	26	2	3	1	0	0	0	0	0	0	0
14	1	1	3	3	3	3	3	3	1	3	3	25	1	1	1	1	1	1	1	1	1	1	9	0	0	0	0	1	1	0	0	0	0
15	1	1	1	1	2	1	0	0	1	1	1	8	0	3	1	3	2	1	3	3	3	2	21	2	0	0	1	0	0	0	0	0	0
16	1	1	1	1	1	1	1	1	1	1	1	9	0	2	0	2	2	2	2	1	3	1	15	2	0	0	1	0	0	0	0	1	0
17	1	1	2	2	3	3	3	3	3	3	3	25	1	1	1	0	2	0	1	1	1	0	7	0	0	0	0	1	1	0	0	0	0
18	2	2	2	2	2	2	2	2	0	1	2	15	1	1	1	1	0	0	1	0	0	0	4	0	0	1	0	0	1	0	0	1	0
19	3	1	2	2	2	2	2	1	0	2	1	14	1	1	2	2	2	3	3	2	2	1	18	2	3	0	0	0	0	1	0	0	0
20	1	2	2	3	2	1	2	2	1	2	2	17	1	1	2	2	1	1	2	0	1	1	11	0	0	1	0	0	0	0	0	0	0
21	1	1	1	2	1	1	1	1	2	1	1	11	0	2	2	3	2	2	1	1	2	1	16	2	0	0	0	0	0	1	0	0	0
22	1	2	2	2	1	2	2	2	1	2	2	16	1	2	2	2	1	2	1	1	1	1	13	0	0	0	0	0	0	0	0	0	0
23	2	2	3	3	3	3	3	3	2	3	3	26	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0
24	1	1	0	1	0	1	1	1	1	2	1	8	0	2	2	2	2	2	2	1	1	1	15	2	0	0	0	0	0	1	0	0	0
25	3	1	2	2	1	2	1	2	1	2	2	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
26	1	1	2	2	1	2	2	2	1	2	2	16	1	2	3	3	2	2	2	1	1	1	14	2	3	0	0	0	0	1	0	0	0
27	1	2	2	2	2	2	2	2	1	2	2	17	1	1	2	2	2	2	1	1	1	1	13	0	0	0	0	0	0	0	0	0	0
28	1	1	3	3	1	2	3	2	2	2	2	20	1	3	2	2	3	1	0	0	1	0	12	0	0	0	0	0	0	0	0	0	0
29	1	1	2	3	2	3	2	2	1	3	3	21	1	2	3	3	2	3	2	0	2	2	19	2	3	0	0	0	0	1	0	0	0
30	3	1	3	3	1	3	3	3	1	3	3	23	1	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0
31	3	1	2	2	1	2	2	2	2	2	2	17	1	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	1	0
32	1	1	0	0	0	1	3	1	0	0	1	6	0	2	0	2	0	2	3	2	0	3	14	2	0	0	0	0	0	0	0	1	0
33	3	1	3	3	3	3	3	3	0	3	3	24	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	1	0	0	0
34	2	1	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	1	0	0	0
35	2	1	2	2	2	2	2	2	2	2	3	19	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	1	0	0	0
36	1	2	3	3	3	3	3	3	3	2	2	25	1	2	2	2	2	2	2	2	2	2	18	2	3	0	0	0	0	0	0	0	0
37	1	1	2	2	2	2	2	2	2	2	2	18	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	0	0	0	0
38	2	1	3	3	3	3	3	3	2	1	3	24	1	3	3	3	2	2	0	0	0	0	13	0	0	0	0	0	1	0	0	0	0
39	3	1	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	1	0	0	0	0	0
40	1	1	0	0	0	0	0	2	3	2	2	9	0	3	3	3	3	3	2	2	1	1	21	2	0	0	0	0	0	0	0	0	0
41	3	1	3	3	3	2	2	2	1	2	3	21	1	3	3	2	2	3	2	2	1	2	20	2	3	0	1	0	0	0	0	0	0
42	3	1	2	3	2	2	1	1	2	2	2	17	1	2	3	3	3	3	3	2	1	2	22	2	3	1	0	0	1	0	0	0	0
43	3	1	2	2	3	1	2	1	1	2	2	16	1	2	3	2	3	2	1	1	2	2	18	2	3	0	0	0	0	0	0	0	0
44	2	1	2	2	1	1	1	2	2	2	2	15	1	3	3	2	2	1	1	2	3	3	20	2	3	1	0	0	1	0	0	0	0
45	1	1	1	2	2	2	1	2	1	2	2	15	1	3	3	3	2	3	3	2	1	3	23	2	3	1	0	0	1	0	0	0	0
46	3	1	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	1	3	3	3	25	2	0	0	0	0	0	0	0	0	0
47	3	1	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	3	3	3	3	22	2	0	0	0	0	0	0	0	0	0
48	3	1	2	3	3	3	3	3	3	2	3	25	1	3	3	3	3	2	3	3	3	2	25	2	3	0	0	1	1	0	0	0	0
49	3	1	3	3	3	3	2	3	3	2	3	25	1	3	3	3	2	3	3	3	2	3	25	2	3	0	0	1	1	0	0	0	0
50	3	1	1	2	3	2	3	2	1	3	2	19	1	3	3	2	3	3	3	3	2	3	25	2	3	0	0	0	1	0	0	0	0
51	3	1	3	2	2	3	3	2	2	2	2	21	1	3	3	3	2	3	2	2	1	2	21	2	3	0	0	0	0	0	0	0	0
52	3	1	3	3	3	3	3	3	3	2	2	25	1	3	3	3	2	3	2	3	2	2	23	2	3	0	0	0	1	0	0	0	0
53	1	1	3	2	1	2	2	3	2	3	1	19	1	2	2	2	1	1	0	0	0	1	9	0	0	0	1	0	0	0	0	0	0
54	2	1	1	1	0	1	0	1	0	1	0	5	0	2	2	2	2	2	2	1	1	1	15	2	0	0	0	0	0	0	0	0	0
55	1	1	3	3	2	2	3	3	2	2	1	21	1	2	2	2	2	2	0	0	2	0	12	2	3	0	1	0	0	0	0	0	0
56	1	1	3	3	2	3	3	3	3	3	3	26	1	3	3	3	3	3	2	1	2	2	22	2	3	0	1	0	0	0	0	0	0

57	1	1	3	3	3	3	2	3	3	2	3	25	1	3	2	3	2	3	3	3	3	3	25	2	3	0	0	0	0	0	0	0
58	1	1	2	2	2	1	1	2	2	1	2	15	1	1	1	1	2	1	1	1	1	1	10	0	0	0	0	0	0	0	0	0
59	1	2	2	2	2	3	3	3	3	2	2	22	1	1	2	1	1	2	1	1	1	1	11	0	0	0	0	0	0	0	0	0
60	1	1	3	3	3	2	2	3	2	2	2	22	1	3	3	3	3	3	3	3	3	3	27	2	3	0	0	0	0	0	0	0
61	2	1	2	2	2	2	2	1	1	2	2	16	1	2	3	2	3	3	3	2	3	3	24	2	3	0	0	0	0	0	0	0
62	1	1	2	2	2	1	2	2	2	2	2	17	1	1	0	0	0	1	1	1	1	1	6	0	0	0	0	0	0	0	0	0
63	1	1	3	3	3	3	3	3	0	3	3	24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
64	1	1	3	3	3	2	2	3	1	3	2	22	1	1	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
65	1	2	3	3	2	3	3	3	0	2	2	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	2	1	1	0	0	1	1	0	0	0	0	3	0	3	3	3	0	3	2	3	0	2	19	2	0	0	0	0	0	0	0	0
67	2	1	0	0	0	0	0	3	2	2	3	10	0	3	3	3	1	3	3	3	3	3	25	2	0	0	0	0	0	0	0	0
68	2	2	0	3	2	3	2	3	0	3	3	19	1	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0
69	3	1	2	2	2	2	2	3	0	2	1	20	1	3	3	3	3	3	0	0	3	0	18	2	3	0	0	0	0	0	0	0
70	2	1	0	0	0	1	1	1	0	2	3	8	0	3	3	3	3	3	3	3	3	3	27	2	0	0	0	0	0	0	0	0
71	2	2	3	3	2	2	2	1	1	3	3	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	3	2	1	2	0	2	2	3	0	3	2	14	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0
73	2	1	1	0	0	0	0	0	1	2	1	5	0	2	2	3	3	3	3	2	0	2	20	2	0	0	0	0	0	0	0	0	0
74	1	1	2	2	2	2	1	2	1	2	2	16	1	0	0	0	0	0	1	1	1	1	4	0	0	0	0	0	0	0	0	0	0
75	2	1	3	3	3	2	2	0	0	1	2	16	1	0	2	2	1	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0
76	3	1	3	3	2	2	3	1	2	2	2	20	1	2	2	2	2	2	3	3	1	1	18	2	3	0	0	0	0	0	0	0	0
77	3	1	2	2	2	1	1	2	1	1	1	13	0	3	3	3	3	3	3	3	3	3	27	2	0	0	0	0	0	0	0	0	0
78	2	1	3	3	2	2	2	2	3	2	1	20	1	3	3	3	2	2	2	2	2	1	20	2	3	0	0	0	0	1	0	0	0
79	3	1	3	3	2	2	2	2	3	3	2	22	1	2	2	2	2	0	0	0	0	0	8	0	0	0	0	1	0	0	0	0	0
80	3	1	3	3	3	3	2	2	2	2	2	22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
81	3	1	2	2	2	2	3	3	3	2	3	22	1	2	2	2	2	2	0	0	2	0	12	2	3	0	1	0	0	0	0	0	0
82	3	2	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	3	3	3	27	2	3	0	1	0	0	0	0	1	0
83	3	1	3	3	3	3	3	3	3	3	3	27	1	3	3	3	3	3	3	3	3	3	27	2	3	1	0	1	1	0	0	0	0
84	2	1	2	2	2	2	1	1	1	2	2	15	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
85	2	2	2	2	2	2	2	2	2	2	2	18	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
86	3	2	3	3	3	3	3	3	3	2	3	26	1	3	3	3	2	2	3	3	3	3	25	2	3	0	0	0	0	1	0	0	0
87	3	2	3	3	3	3	3	3	3	3	3	27	1	3	2	3	2	3	3	2	2	2	22	2	3	0	0	0	0	1	0	0	0
88	3	1	2	2	2	2	1	1	2	2	2	16	1	3	3	3	3	3	2	2	2	2	23	2	3	0	0	0	0	0	0	0	0
89	3	2	2	2	2	3	2	2	2	2	2	19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	1	1	1	1	1	1	2	2	2	2	2	14	0	2	2	2	2	2	1	1	2	2	16	2	0	0	0	0	0	1	0	0	0
91	3	1	2	3	3	3	2	2	0	2	2	16	1	3	1	0	1	1	0	0	0	0	6	0	0	1	0	0	0	0	0	0	0
92	3	1	3	3	2	3	3	3	3	2	2	24	1	1	0	0	0	0	0	0	2	1	4	0	0	1	0	0	0	0	0	0	0
93	2	2	1	2	3	1	3	3	2	2	3	21	1	3	2	2	3	2	1	2	1	2	18	2	3	0	0	0	0	1	0	0	0
94	2	1	3	3	2	2	2	2	2	2	2	20	1	0	2	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0
95	2	1	2	2	1	2	2	2	0	3	3	17	1	0	2	2	0	0	0	0	1	0	5	0	0	0	0	1	1	0	0	0	0
96	1	1	1	1	1	1	1	1	2	2	2	12	0	2	2	2	2	2	2	2	2	2	18	2	0	0	0	0	0	1	0	0	0

1=AGE LESS THAN OR EQUAL TO 7
2=AGE 8 TO 9
3= AGE 10 TO 11

RD= READING DIFFICULTY
WD= WRITING DIFFICULTY
BD= BEHAVIORAL DIFFICULTY
PSP=POOR SOCIAL PERFORMANCE
PAP= POOR ACADEMIC PERFORMANCE
CONDUCT =CONDUCT DISORDER

NAME	AGE	GENDER	STANDARD	INATTENTION	HYPERACTIVITY	PERFORMANCE	COMORBIDITIES	INFERENCE
ARTHI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AMEENA BANU	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MUMTAZAR	10	MALE	5TH	0/9	3/9	0/8	NIL	NORMAL
TAMILSELVI	10	FEMALE	5TH	1/9	0/9	0/8	NIL	NORMAL
ANJUM FATHIMA	11	FEMALE	5TH	2/9	0/9	4/8	NIL	NORMAL
SHAJITH MUSHKHAN	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
FARZANA	10	FEMALE	5TH	4/9	2/9	3/8	NIL	NORMAL
THASTHAKIR	12	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED YASIR	10	MALE	5TH	0/9	0/9	1/8	NIL	NORMAL
MOHAMMED GIJAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASIF	11	MALE	5TH	5/9	5/9	5/8	NIL	NORMAL
MOHAMMED NIJAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASIFA BEGUM	10	FEMALE	4TH	1/9	0/9	0/8	NIL	NORMAL
GULAB BASHA	11	MALE	5TH	2/9	2/9	2/8	NIL	NORMAL
NIKKATH JOHARA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SAFREEN	12	FEMALE	4TH	0/9	0/9	5/8	NIL	NORMAL
SABRIN BEGUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SARAVANAN	10	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NADIM	10	MALE	4TH	5/9	0/9	3/8	NIL	NORMAL
ASMA PARVEEN	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
JABEEN	9	FEMALE	4TH	0/9	0/9	0/9	NIL	NORMAL
AMREEN	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHAZIA FATHIMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SATHISH KUMAR	9	MALE	4TH	O/9	0/9	0/8	NIL	NORMAL
WAJID ALI	10	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ANISHA FATHIMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AYISHA SULTANA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
FARZANA BEGUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RESHMA BANU	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ABDUL MALIK	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
HALIL BASHA	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHABEER BASHA	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHEEBAZUDEEN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PARVEEN FATHIMA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHAISTHA BANU	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
THUSLWEM	8	FEMALE	3RD	2/9	0/9	0/8	NIL	NORMAL
NIZAMUDEEN	8	MALE	3RD	2/9	0/9	1/8	NIL	NORMAL
SHEREEN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NIZAMUDEEN	8	MALE	3RD	O/9	0/9	0/8	NIL	NORMAL
MOSHINA KAMEELA	9	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAZREEN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NASREEN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SYED REHAAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
FARHEEN SUFIYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SAMIYULLAH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
VIGNESH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YASMIN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SYED RYAAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
FAZILATH	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ASIF	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
IRFAN SHERIFF	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AJAZ KHAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SABYA BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MUBARAK TAJ	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED KABEER	7	MALE	2ND	3/9	0/9	2/8	NIL	NORMAL
MUSTAK MIYAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SALMAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL

ISRAFIL	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
REHAAN BASHA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
YASMIN	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MUSHKHAN	7	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHAGUFA FATHIMA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NIVEDHA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MAJEETHA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FARHANA JABEEN	7	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KATHIJA	7	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MOSHINA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FATHIMA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHILFIA	7	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHABREEN FATHIMA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
TAMEEN SHERIFF	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GOWTHAM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
JEREMIAH ROSARIO	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHEIK ANWAR	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GAYAZ	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
IRFAN BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FARHAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHAHITH	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NAGARAJ	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ABBASH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NOWRANG	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
TAMIL MANI	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SANGEETHA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NAGALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SAKTHI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GAYATHRI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
YOGALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
DHARUNEESHWARAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MAHESHWARAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RUBAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DHANUSHA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
POORNACHANDRAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SELAGANESH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ARTHI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
CHANDRAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED YASIN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
DILEEP	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
LATHA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ASLAM BASHA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
HARISH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VENKATESHAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PREM KUMAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MANJULA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
IMRAN SHERIFF	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SRINIVASAN	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DHANUSH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DILEEP	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MANIGANDAN	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
APPU DHANUSH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SIVALINGAM	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
GOMATHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUGANTHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUMATHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL

VIJAY	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MANIGANDAN	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DHBRESHUSSAN	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MAHESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED HUSSAIN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABINAYASHREE	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
LAWRENCE RAJ	9	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SHABANA BANU	9	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PENICILAMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASHIF	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
GAYATHRI	9	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASHWINI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VEERA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MANJULA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
UKASH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SIVARAMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ROHIT	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AKASH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
JOSHUA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VISHNU VARADAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KISHORE	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
GOWTHAM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
POTHUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VIMALA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NAGALAKSHMI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ARTHI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
DEEPA	8	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PONCHITRA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SUBHALAKSHMI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ASEENA BANU	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAKSHANA BEGUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MUKESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
BHUVANESHWARAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
JAFFER	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RAJU KANNA	9	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DHINESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
THARAKSHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DHANALAKSHMI	9	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
LOGESH	9	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MANO	9	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RAHUL	9	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SURESH	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SATHISH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KISHORE	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PREM KUMAR	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAKESH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SURIYA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SANJAY	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NASREEN SULTANA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
CHITRA SELVI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AISHA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ASHWIDHA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
BHUVANESHWARAI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
DHIVYASHREE	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
BHAVANI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ADHARATHAYA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
STEPHEN RAJ	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL

SIVARANAJANI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VENNILA	8	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ANISH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
HARIHARAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SIVA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VISHNU	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
IDRIS	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED YUSUF	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SAJJAD KHAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRAVEEN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
YASMIN	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KOKILA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DEEPIKA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NANDHINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NAGESHWARI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
REMYA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
FOUZIYA FATHIMA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SADHANA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
YASMIN	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FATHIMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
USNA BEGUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MUJAMIL	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
UMMAL KHADHIJA	11	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AMIR KHAN	12	MALE	7TH	0/9	0/9	0/8	NIL	NORMAL
ALIKALIFAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ATHAULLAH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHMMED ASIM`	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SALMON	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SAMEER	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SELVA	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHUBASHREE	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RESHMA 10	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DASTHAKIR BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAHMAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAHEEM KHAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AFREEN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHAHINA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GULSAR BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
FARZANA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHABLAM	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SUVADHA BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
USNA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KARISHMA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
FOUSIYA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KAUSH BASHA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NATHEEM BASHA	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ASHRAF USUF	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED WASIM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHARAVAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAMESH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAVAS	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MASTHAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAN RAJ	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
IYYAPAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MADHAR BASHA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAGURAMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NANDHAKUMAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
LAVANYA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL

ANJUM FATHIMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
JUVARIYA SULTANA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AJEERA	12	FEMALE	7TH	0/9	0/9	0/8	NIL	NORMAL
SOFIA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
GULSAR	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RIYANA BEGUM	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SHAJJAD ALI	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED SADDHAM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SYED HUSSAIN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SANA SHERIFF	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AFREEN	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AMIR BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
DEEN MAHADEENA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHAHISTA ZEHRA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
FARIDHA SULTANA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DOULATH UNISSA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SAMEERA BANU	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RESHMA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAZEEMA BEGUM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
FAREEDA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NASREEN BANU	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
YASMIN BANU	12	FEMALE	7TH	0/9	0/9	0/8	NIL	NORMAL
MEHER UNISSA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MARIYAM	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
FIROZ MALIK	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MAHEERA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AHMED MALIK MULK	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DEEN SHAPNA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SHAZIYA THAZEEN	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ZAHIR UNISSA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NASREEN BEGUM	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
AYISHA BEGUM	12	FEMALE	7TH	0/9	0/9	0/8	NIL	NORMAL
SYED HASHIM ALI	12	MALE	7TH	0/9	0/9	0/8	NIL	NORMAL
SYED MOHAMMED	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHARMILA BANU	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NARGEESH	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MUSSAFIR BASHA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED WAJID	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
WAJID ALI	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RIZWAN BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FARHANA BEGUM	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
CHANDHINI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SALMAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AKBAR BASHA	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SYED RIZWAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
IMRAN KHAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DOWLATHUMISSA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAHUL ARMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NOOR MOHAMMED	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHAFITHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED SHERIFF	5	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
FATHIMA SHIFANA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AYISHA FATHIMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ANARKALI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHREEN	12	FEMALE	7TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ASLAM	12	MALE	7TH	0/9	0/9	0/8	NIL	NORMAL
YUSUF	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
FATHIMA SAHANA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
JAKIR HUSSAIN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL

NAGAVALLI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
DINESH RAJ	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MAHESHWARI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SRI MALATHY	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ANKITHA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
LOGESHWARI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MAHALAKSHMI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SANJAY	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ARJUN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SENTHIL KUMAR	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
VISHAL	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KAVYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
KAUSALYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SACHIN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAMESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MANISH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PREETHI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
CHANDRU	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SANJAY	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
NANDHINI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
GOKUL	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ALAMELU	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASHRAF	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RAJESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MANO	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DHANUSH	12	MALE	7TH	0/9	0/9	0/8	NIL	NORMAL
HARI KUMAR	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KAVYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
JEEVITHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ARTHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MANIMARAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SARATHY	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SARATHY	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRAMILA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KAVITHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DHANUSH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
KARTHIKEYAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PREM KUMAR	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ARAVINDAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PRATAP	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
GANAPATHY	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SHARAN RAJ	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MADHAN KUMAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED RILWAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ASHMITHA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SUGASHINI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
THASLEEMA BANU	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KAVYA ARASI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RAJESHWARI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
JAYALAKSHMI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
TAMIL KUMAR	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NARENDRAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VJAYALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ANUSHYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SUBBULAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ASHWINI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AKSHAYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL

PADBANABAM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
PRAKASH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SUBASH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
IMTHIYAAZ	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
BALAJI	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AJAY	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VENKATESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
FAIROZ	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MAHESH KUMAR	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MAHESH	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NARAYANAN	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KAILASH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PRAKASH	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SULTANA	11	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
BHUVANESHWARI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
LAVANYA	11	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NAGAVENI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PADMA PRIYA	12	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KEERTHANA	12	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RISHANTHI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SOWJANYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KAMATCHI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AMRITHA VARSHINI	11	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MANASA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANGEETHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SRIMATHY	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VIJAY	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PACHAIAPPAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ROSHAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RAHUL	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SIBIRAJ	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
HAYADH BASHA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KISHORE	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SAMEER BASHA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SIKANDHAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED BASHA	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SYED KIRBAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DHANUSH KODI	11	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
JYOTHIKA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MADHIMITHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PREETHIKA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RITHIKA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DEEPIKA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AJITH KUMAR	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
CHANDRAN	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
PRAVEEN KANTH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SRINIVASAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SAIRAM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MADHAN	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SUBASH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
PIRIDHARAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AKASH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ASHIK	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NARMADHA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MANJU	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RESHMA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
BAVANI	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL

SHARMILA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MANISHA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHEELA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SUMAYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAJALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MOSHINA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHERIN BANU	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NAVIN KUMAR	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
BARSHANA FATHIMA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NUSHRATH BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NAZREEN BANU	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VISHNU	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
IBRAHIM HUSSAIN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SERINIVASAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SHABANA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DHATCHAYINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
GOMATHY	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ARCHANA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SARAVANAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SAMEER HUSSAIN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
AFREEN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
GOPIKA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PAATHIMUNISHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DHANUSH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
YOGESHAWRI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
INDIRA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YUVARAJ	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAJESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KEERTHANA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VAITHEESHWARI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VISHALI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAJESHWARI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
JAYARAJ	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
FATHIMA THASLIMA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SARAN	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VISHWA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MOHAN KUMAR	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
HARI PRIYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ARATHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SANDHIYA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
BANUMATHY	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KALA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SAI KADHIR	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SARAVANAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
IMTHIYAZ BASHA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SALMAN BASHA	12	MALE	7TH	0/9	0/9	0/8	NIL	NORMAL
KAJA BASHA	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
TASTAHAKEER	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ASIKUR RASSOL	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AJAS BASHA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RUPAAZ	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SYED FAIZUDIN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHAHANA AYINI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAJESHWARI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
DEEPAK	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
IMAN RAJ	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SYED BILAL	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NAZZER	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RIZWAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL

SYED RAFFI	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
HARISH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
HARISH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RAGESH KUMAR	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
BALAJI	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PRATHEESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
GHOSS BASHA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DINESH RAJ	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YOGESHWARA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KASHIF BASHA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SANJAY	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DHARSHAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AMRITHA VALLI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
TIMPLE RUPA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NIHAR	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ASINA BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
TEJESHREE	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
BAVANA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
LISHANTHINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ZARA BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
APARANA ANGEL	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AKASH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHANKAR	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RAKESH	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
PRAVEEN KUMAR	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ALI	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ANSAR	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ASHAR BASHA	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ZYED AHMED	12	MALE	6TH	0/8	0/9	0/8	NIL	NORMAL
DHANUSH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SYED ANWAR	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHAHID AFRIDI	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RAJA GURU	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
IMRAN BASHA	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHANU KHAN	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SYED THARVISH	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SURENDRAN	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
THENMOZHI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KAVYA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
TAMIL SELVI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHAYIN	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NAMEERA FATHIMA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RAMEEZ FATHIMA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
GAJALAKSHMI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DHARSHANA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NOOR NISHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RIZWAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RIZWAN	10	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
WAJID MOHAMMED	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KADHIR BASHA	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MASS	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED AJAS	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RANJITH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SYED SADHIK	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ABDUL JABBAR	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
FAIZAL	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NAJEEM BASHA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VIJAY	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL

GOWSHI NISHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PARVATHY	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASEEMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PARVEEN	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VAISHNAVI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ANIS SIDIQKA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABHISHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SUDHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
POOJASHREE	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RENUGAMMAL	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
IMAN RAJ	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRAVEEN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PRAMODH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DURGA DEVI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MYTHILI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
AYISHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ASSRA BANU	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
TASNEEM BANU	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MONISH	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
VASIM	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VISHAL	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRAVEEN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PRAMODH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SYED GOUSULLAH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SHAHID BASHA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MOHAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PRAMODH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
JENNIFER	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
VIJAY	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
FATHIMA HUSSAINA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KISHORE	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
KISHORE	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GOUSH BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AKBAR BASHA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NOOR MOHAMMED	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SUDHAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ROHIT	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
JOSHUA	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRASANNA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RUPAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
TAMILARASAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RIZWAN BASHA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ANEES FATHIMA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SOFIA BEGUM	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RASHIDHA PARVEEN	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VALARMATHY	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
FATHIMA HUSSAINA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MUSHKIN FATHIMA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RESHMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
LOGESHWARI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PRAVEENA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MONICA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
TAMIL SELVAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
HARINI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NITHYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SARAL	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NISHANTHI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
CHANDRALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL

DHANUSHKA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
GURU	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
CHITRA DEVI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SARANYA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PARAMESHWARI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
BANUMATHI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RAJESHWARI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VETRI VEL	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
BAVANI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
JAYANTHI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MUNIYAMMAL	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KAVYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
JENNIFER	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
LAVANYA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MURUGADOSS	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DIVYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NILA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
DIVYA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DINESH RAJ	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MAHALAKSHMI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHARON	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ARATHI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
AMUDHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABITHA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
HARI KRISHNAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANJAY	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KOKILA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
LAKSHMI DEVI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MADHUMITHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
PUNITHA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RANJITHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
RESHMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SRIMATHY	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SIVARANJANI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUBBULAKSHMI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SOWMIYA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VASUKI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SHEEBA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
PRATHAP	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SURYA	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
JAYALAKSHMI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KALKI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
LAKSHMI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NAGOMI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SARANYA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUBBULAKSHMI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
DURGA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SWETHA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NIRMALA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SWETHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SUBASH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUMITHRA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VIGNESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
GOWTHAM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VASANTH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SANJAY	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL

VEERALAKSHMI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PREETHIKA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
AMEED HUSSAIN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
JAYARAJ	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SARAN	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ALI	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VISHAM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RAMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
JAYANTHI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SANDHYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
VENNILA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ARATHI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
YAGAVI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RESHMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SAI CHARAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
LAKSHMANAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ALI	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AJITH KUMAR	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SRINIVASAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VENKATESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SADHIK	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SARAVANAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAGARJUN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED RAZAAK	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
JEEVAN KUMAR	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RASHEEDH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ARUN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
HARISH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAZREEN BANU	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
BAVANI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
PALLAVI	7	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DEENA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ASREEN FATHIMA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VAISHNAVI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KARTHIKA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SARASWATHY	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SASIKUMAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SAMEERA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
HARIKA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NAGALAKSHMI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NANDHINI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
NADHEESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VENKATESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
LAVANYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MAHALAKSHMI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NARASIMMA	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SHYAM	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
KARTHIK	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SREEJA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
TAMIL ARASU	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RENUGA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
AISHWARYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RAJESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MITHRAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VINCY	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
DEVAYANI	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MUTHUKUMAR	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL

NARESH	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MADHAN	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ILAVARASI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHYAM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
BALAJI	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
TAMIL SELVAM	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SAMUNDESHWARI	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ASHWIN	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MAHADEVAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NARESH	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
TAMIL ARASU	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SADHIK BASHA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
JAFFER BASHA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
AFZAL BASHA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KADHIR BASHA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NEYAZ BASHA	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NOORULLAH	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
UMMI SALMA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAIZA	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHEIK IMRAN	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SHAKIR	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NIZARUDIN	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MUBARAK TAJ	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AZARUDIN	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
FIROZ	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
FAMIDHA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DOWLATHU NISHA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SANDHYA PARVEEN	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ABDUL SALMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
TAMEEM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
TOWFAIL	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
BASHEER	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SALMAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED ASIF	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
WAHIDHUM NISHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SARTAJ	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YASMIN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
JESSIRA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
KARISHMA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NOORISAHAR	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SALMAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
TOWFIQ	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MADAR BASHA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED NAWAB	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MUREN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
AYAZ AHMED	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SAMEER	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
FARZANA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SHAHEENA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
FOWZIYA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
RESHMA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
HASEENA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
MOHAMMED IMRAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SHEIK SATHAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
TASEEM	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
DASTAGIR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABBAS	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASIYA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RIYAZ	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL

GHOUSEMA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
NAZREEN BEGUM	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ASHIFA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
LALITHA KUMARI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ADHIKESAVAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
KARTHIKA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
JABEEN SULTANA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
ANITHA	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SARASWWATHY	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SUGANTHI	12	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SARATH CHANDAR	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VASANTH	12	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SANJAY	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
KAVITHA	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
CHINNU	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
VIGNESH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
SURESH	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
MUTHULAKSHMI	5	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
THIRUNAVUKARASU	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
GIRIJA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
HEMALATHA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
NANDHINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MENAKA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MADAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
GUNASEKAR	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
BALAJI	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ABHISHEK	5	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SURYA PRAKASH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ARUN KUMAR	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
INDHUMATHY	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SUJATHA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
RATHU	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
KASTHURI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PRAVATHY	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
GOKUL	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
VISHAL	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SARANYA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VISHAL	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ARTHI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
BAVANA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ISHWARYA	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DHARANIDHARAN	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MANJULA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
LAWRENCE	11	MALE	6TH	0/9	0/9	0/8	NIL	NORMAL
TILAKAVATHY	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
MATHESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
BABU	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
GOPI	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABDUL SIDDIQ	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
TAMILARASAN	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
PARTHASARATHY	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
ELUMALAI	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABHINESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
YOKESH	10	MALE	5TH	0/9	0/9	0/8	NIL	NORMAL
ABHI	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
POOJA	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
RAJESHWARI	10	FEMALE	5TH	0/9	0/9	0/8	NIL	NORMAL
SUNDARAM	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DHILLI BABU	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL

LOKESH	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
VISHAL	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
ILAYARAJA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
EZHILARASAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
AJAY	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YAMENI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
YOGALAKSHMI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
MALATHY	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SURYA	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PARADHESH YASIM	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHAKTHI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
VAANI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KARTHIK	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
AJAY	8	MALE	3RD	0/9	0/9	0/8	NIL	NORMAL
NOORJAHAN	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SAMANDHI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
SELVI	8	FEMALE	3RD	0/9	0/9	0/8	NIL	NORMAL
DINESH KUMAR	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
BALAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
KUMARESAN	9	MALE	4TH	0/9	0/9	0/8	NIL	NORMAL
OVIYA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
DEEPA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
PRIYANKA	9	FEMALE	4TH	0/9	0/9	0/8	NIL	NORMAL
SINDHU	11	FEMALE	6TH	0/9	0/9	0/8	NIL	NORMAL
PAVITHRA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
LOGESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RITHIKA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SIVAKUMAR	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
PRASANTH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SANTHOSH	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SWATHI	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KISHORE	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SHERIFF	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KUMARESAN	7	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
VARSHINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
PRADEEPA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
VIJAYALAKSHMI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
BHARATH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
MONICA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
ARUN KUMAR	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NSARENDRAN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
ASHWIN	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SWATHIKA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
RAMYA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
KRITHIKA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DHARINI	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DIVYA	7	FEMALE	2ND	0/9	0/9	0/8	NIL	NORMAL
RAM	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SANKARAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
DINESH	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
VENKATACHALAM	6	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SINDHU	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
MADHAVAN	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
GOKUL	7	MALE	2ND	0/9	0/9	0/8	NIL	NORMAL
SATHYA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SOORYA	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL
NIRMALA	6	FEMALE	1ST	0/9	0/9	0/8	NIL	NORMAL
SARATHY	6	MALE	1ST	0/9	0/9	0/8	NIL	NORMAL